DOCUMENT RESUME

ED 118 026 HE 007 058

TITLE The University of California Academic Plan. Phase 2. Campus Academic Plans. Volume 1. The University-wide Perspectives. Volume 2. The Chancellors' Statements.
INSTITUTION California Univ., Berkeley.
PUB DATE Mar 75
NOTE 176p.

EDRS PRICE MF-$0.83 HC-$10.03 Plus Postage
DESCRIPTORS *Administrator Attitudes; Budgeting; *Educational Planning; Educational Policy; Graduate Study; Guidelines; *Higher Education; Models; Policy Formation; Program Evaluation; *Statewide Planning; Undergraduate Study; *Universities
IDENTIFIERS *University of California

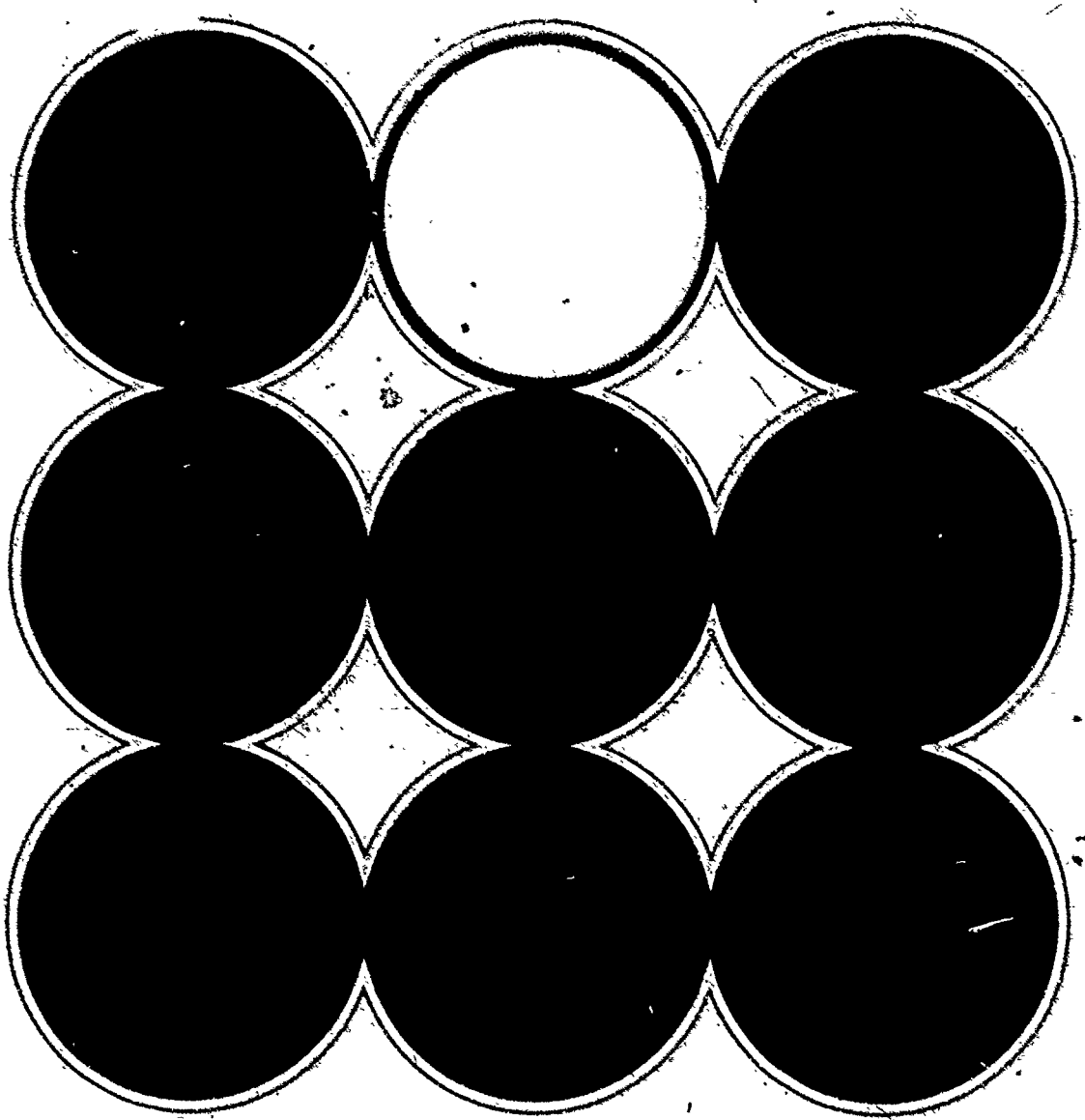
ABSTRACT

In March 1974, the Regents approved for planning purposes a new University Academic Plan for 1974-78. That plan contained significant changes from the prior University Academic Plan of 1969, primarily because of the substantial downward shifts in state and national population growth rates. Hundreds of individuals--faculty members, students, chancellors, deans, and other administrative staff--from the nine campuses of the University of California have contributed to the development of the Campus Academic Plans. At the university-wide level, many other staff members have helped to design guidelines, to provide information, and to review and analyze the plans. The results of their efforts covered in this document are: (1) planning objectives, campus plans, and benefits, the link between academic and budgetary planning, and periodic revision; (2) broad goals and directions, specific program proposals, board actions on charges; (3) planning steps, consultation during planning, staff reorganization, program reviews, and continuing activities; (4) some current academic policy issues and problem areas; and (5) summaries of campus academic plans. Part 2 of this document contains statements made by the chancellors of the various divisions of the University of California. (Author/KE)

University of California

Academic Plan Phase II Campus Academic Plans

Volume I
The University-wide Perspective



March, 1975

THE UNIVERSITY OF CALIFORNIA ACADEMIC PLAN

PHASE II: THE CAMPUS ACADEMIC PLANS

MARCH 1975

VOLUME I - THE UNIVERSITYWIDE PERSPECTIVE

TABLE OF CONTENTS

	PAGE
PREFACE	1
I. INTRODUCTION	2
Planning Objectives	2
The Campus Plans	3
Significant Added Benefits	3
Link Between Academic and Budgetary Planning	4
Periodic Revision	5
II. WHAT APPROVAL OF THE CAMPUS PLANS MEANS	6
Broad Goals and Directions	7
Specific Program Proposals	7
APPR Board Actions on Changes	8
Chart I - Established Senate and Administrative Review and Reporting Processes	10
Chart II - (Prototype) - Approval Status of Proposed Programs in Campus Academic Plans, March 1975	11
Explanatory Notes on Chart II	12
III. HOW THE CAMPUS ACADEMIC PLANS WERE PREPARED	14
Planning Steps	14
Consultation During Planning	15
Staff Reorganization to Strengthen Planning	16
Program Reviews	18
Continuing Activities	19

		PAGE
IV.	SOME CURRENT ACADEMIC POLICY ISSUES AND PROBLEM AREAS	20
	General Academic Policy Issues	22
	The Overriding Policy: Quality	22
	Comprehensiveness and Selective Development	23
	Demand and Balance	30
	Flexibility and Long-term Commitments	36
	Specific Policy Questions	40
	Administration	41
	Marine Sciences	42
	Education	44
	Veterinary Medicine	46
	Health Sciences (excluding Veterinary Medicine)	47
	Library Policy and its Implementation	49
	Current Developments and Problems	50
	Computer Resources	51
	Law School Capacity in the University	54
	The Problem of Small Doctoral Programs	55
V.	SUMMARIES OF CAMPUS ACADEMIC PLANS	57
	Berkeley	
	Plan Rationale	58
	Chart of Proposed Programs	59
	Davis	
	Plan Rationale	60
	Chart of Proposed Programs	61

	PAGE
Irvine	
Plan Rationale	62
Chart of Proposed Programs	63
Los Angeles	
Plan Rationale	64
Chart of Proposed Programs	65
Riverside	
Plan Rationale	66
Chart of Proposed Programs	67
San Diego	
Plan Rationale	68
Chart of Proposed Programs	69
San Francisco	
Plan Rationale	70
Chart of Proposed Programs	71
Santa Barbara	
Plan Rationale	72
Chart of Proposed Programs	73
Santa Cruz	
Plan Rationale	74
Chart of Proposed Programs	75
APPENDIX Undergraduate Education	76

PREFACE

Hundreds of individuals -- faculty members, students, Chancellors, deans, and other administrative staff -- from the nine campuses of the University of California have contributed to the development of the Campus Academic Plans.

At the Universitywide level, many other staff members have helped to design guidelines, to provide information, and to review and analyze the Plans. The chief responsibility for directing this broad effort has been exercised by the Academic Planning and Program Review Board, under the chairmanship of The Vice President of the University. Members who served on the Board during a part or all of the past year are:

Administrative officers -- James S. Albertson, Loren M. Furtado, Richard B. Grenfell, Thomas E. Jenkins, Joseph W. McGuire, Clinton C. Powell, David S. Saxon, Wilson K. Talley, Angus E. Taylor, Chester O. McCorkle, Jr., Chairman.

Faculty members -- Jack DeGroot, Robert Dubin, Edwin S. Gaustad, Ira M. Heyman, Vincent Jaccarino, Herma H. Kay, Alexei A. Maradudin, David A. Wilson.

Student members -- Robert Ellis, George Hohnsbeen, Ken Levy, Mark Overgaard, Suz Rosen.

I want to express my own and the University's deep appreciation to all those members of the academic community who have participated in this second phase of the University of California's Academic Plan for 1974-1978.

Charles J. Hitch, President
University of California
March 1975

I. INTRODUCTION

In March, 1974, The Regents approved for planning purposes a new University Academic Plan for 1974-78. That Plan contained significant changes from the prior University Academic Plan of 1960, primarily because of the substantial downward shifts in State and national population growth rates. The changes embodied in the 1974 Plan did not, however, include any change in the University's mission, which was restated in the Plan as follows:

> The distinctive mission of the University is to serve society as a center of higher learning, providing long-term societal benefits through transmitting advanced knowledge, discovering new knowledge, and functioning as an active, working repository of organized knowledge. That obligation, more specifically, includes undergraduate education, graduate and professional education, research, and other kinds of public service, which are shaped and bounded by the central and pervasive mission of discovering and advancing knowledge.

Planning Objectives

The 1974 Plan reviewed the revised enrollment projections and the fiscal outlook, set forth the basic assumptions which guided the Plan's development, and presented three broad planning objectives for the University of California in the 1970s:

1. The University of California will strengthen its overall academic planning and review processes to assure that all university-level programs of recognized scholarly and professional importance are presented somewhere within the institution; their distribution and development on the several campuses will be planned to achieve a total spectrum of University offerings of breadth and quality not attainable in a single-campus institution of higher learning.

2. The University considers it imperative to preserve the intellectual vitality and dynamism of the mature campuses in their new steady-state conditions.

3. The University considers it equally imperative to continue strengthening the academic development of the growing campuses.

The distinction between "mature" campuses and "growing" or "developing" campuses is useful operationally for budgetary and other planning purposes, but does not adequately reflect the great diversity among the campuses. Some are growing more rapidly than others; some have areas that are relatively mature and others that are still developing; some have reached plateaus of maturity but may expect additional growth in the more distant future.

The Campus Plans

The University Academic Plan described in some detail the new planning and program review processes which the University had established to achieve these objectives. As the description indicated, the document presented to The Regents in March, 1974, constituted a very substantial first step though not the whole of the planning effort:

> "The University Academic Plan is not in itself an operational plan: it does not set forth proposals and recommendations about specific academic programs. Those will be contained in the Campus Academic Plans which will result from the processes described here. It is the individual Campus Plans and this present document taken together which will constitute the operating Academic Plan for the University of California."

The new Campus Academic Plans have now been generally completed (two Plans, those of the Berkeley and Santa Cruz campuses, are still in the review stages). Summaries of the Campus Plans appear in the final section of this document, and overview statements about each Campus Plan prepared by the Chancellor of that campus appear in a separately bound volume accompanying this document.

The new Campus Plans replace prior Campus Plans which are by now out of date in varying degrees and were not developed simultaneously. In today's circumstances, close coordination of Campus Plans is essential to assure the wisest disposition of more limited resources throughout the University. The present Plans have been developed through a new iterative process involving successively more detailed exchanges of guidelines, data, plans, and analyses between local campus and Universitywide planning bodies.

Significant Added Benefits

This planning process broke new ground in relationships among campuses and between campus and Universitywide administrators concerned with academic policies and programs. It produced three highly significant results which should be stressed here because they will not be evident in the other formal planning documents despite their major impact on the Plans:

1. The first result was the broadened perspective gained by those who participated in the process. The extensive exchanges between campus and central planning bodies enabled Universitywide administrators to gain a fuller appreciation than ever before of the aspirations and problems of the campuses in every aspect of their academic programs. The campuses gained better perspectives than ever before on Universitywide objectives and problems. Further, members of each campus community began to appreciate more fully the plans and directions of other campuses. The planning process and some of the Universitywide reviews described in Section IV of this report disclosed a lack of information on the campuses about counterpart activities on the other campuses. Steps are being taken to assure more intercampus exchange of information and cooperative planning within discipline areas to achieve more complementarity of programs.

2. A second important benefit was the involvement of far more members of the entire academic community -- faculty, students, and administrators -- at more different campus and Universitywide levels than had occurred before in a single University planning effort. This broad participation has helped make the Plans more coherent, more realistic, and more responsive to the legitimate concerns of their constituencies.

3. The third result of the process was the considerable amount of effective planning that occurred before the Campus Plans were formalized. The frequent exchanges between Universitywide and campus groupd led to continuous reshaping of Universitywide goals and expectations and of campus hopes and intentions. By the time the Campus Plans reached formal expression in writing, broad directions had been agreed to and many decisions, positive and negative, about specific programs already made. The Plans reflect but do not explicitly itemize or describe these very extensive pre-Plan activities.

The end result of the new planning process is a series of integrated Campus Plans which, taken as a whole, should enable the University to achieve its three major academic planning objectives for the 1970s.

Link Between Academic and Budgetary Planning

The new planning process has helped to forge a stronger and more direct link than existed before between academic and budgetary planning throughout the University. The fact that all of the Campus Academic Plans are now prepared at the same time and considered in relation to each other and to the Universitywide Academic Plan has enabled the University budget to reflect in a more accurate and timely manner the overall academic program priorities of the whole institution. This

close relation between academic and budgetary planning is particularly valuable during a slow-growth period when many of the University's changes in academic programs must be accomplished through reallocation rather than the addition of resources.

Periodic Revision

The existence of current Campus Plans will help in the periodic updating and reshaping of the Universitywide Plan, and that Plan in turn will give direction and scope to the revisions of the individual Campus Plans. The present intention is to revise and update the Plans from a broad perspective every two to four years. In addition, campuses will be given an opportunity annually to recommend plan revisions, including specific proposed program additions and deletions. These will be reviewed in the same manner as those contained in the current Campus Academic Plans. Subsequent revision and updating of the Plans should be a less onerous task than that which faced University planners during this first round, when it was necessary to produce both a Plan and a planning process appropriate to the University's needs, along with both the format and the data for the supporting information.

II. WHAT APPROVAL OF THE CAMPUS PLANS MEANS

Although formal plans are issued periodically, planning itself is a continuous process. As the 1974 document pointed out, academic planning grows implicitly out of the on-going discoveries of scholars, the changing needs of students, the shifting program emphases of instructors and of departments, the current concerns of the broader society, and the day-to-day decisions of administrators as they weigh external and internal circumstances affecting academic and fiscal questions.

These on-going plans need to be crystallized and made explicit at appropriate intervals for a number of purposes: operating budget preparation, capital outlay planning, evaluation of scholarly directions and enrollment trends, coordination among academic units and among campuses, meeting reporting requirements of the California Postsecondary Education Commission, and the periodic encouragement of longer perspectives than those which tend to mark day-to-day developments. At the same time, formal plans need to be sufficiently flexible, especially during a highly uncertain period, to permit appropriate accommodation to changing circumstances and to avoid the real dangers of appearing to foreclose the introduction of new ideas and initiatives between formal planning periods. The University is committed to a planning process that encourages new ideas and initiatives and seeks to put them into operation whenever they appear to be academically desirable.

If the Campus Academic Plans are both formal and flexible--a slice in time from a continuous planning process--the question arises of their actual authority as planning documents. What weight should be attached to their statements of future intentions?

The answer to this question has to apply to two dimensions of the Campus Plans--their broad academic goals and directions, and their specific program proposals.

Broad Goals and Directions

The statements of broad academic goals and objectives and of changing academic directions which are contained in the Campus Academic Plans have been endorsed by the APPR Board and finally approved by the President (except in a few instances where review of late Plan submissions is still underway). These general statements are accepted as the established guidelines for detailed planning on the campuses until such time as they may be revised in whole or in part.

Specific Program Proposals

The operative expression of Campus Academic Plans is found in their specific program actions. In the normal course of University operation (that is to say, regardless of whether a Campus Academic Plan is under consideration), proposed programs of various kinds (undergraduate or graduate, with or without degrees that are new to a particular campus, Organized Research Units, etc.) go through a series of Academic Senate and administrative reviews at campus and Universitywide levels. Chart I shows the established review and reporting processes for proposed University programs.

Formal review action with respect to discontinuance of established programs has not been similarly spelled out or standardized throughout the University. During the recent period of rapid growth, attention was necessarily focused on the careful review of new program proposals. Now that some campuses have reached maturity and growth for others is slower, the discontinuance of some programs to free resources for others of higher priority has become much more frequent and is an important feature of current academic planning. Examples of current or recent program reductions include the following: Discontinuance of the Institute of Ethnomusicology, of the M.A. degree in Speech, and of the M.A. and M.J. degrees in Journalism, all at Los Angeles; discontinuance of the M.S. and Ph.D. degrees in Nutrition at San Francisco; the prospective phase-out of the School of Criminology at Berkeley; and consolidation of several Colleges and other administrative units at Riverside, with associated administrative savings.

It is obvious that program curtailments or eliminations on one campus may have impacts on the Universitywide totality of academic offerings and their quality similar to the impacts of program additions. A policy concerning review processes for proposed program cutbacks is discussed in Section IV of this document.

APPR Board Actions on Changes

The inclusion of proposed programs in Campus Academic Plans provides an additional and longer-range perspective for the consideration of these programs. The APPR Board, after consultation with the campus, acts on these programs in the context of the relevant Campus Plan. Proposals may be accepted for planning for the "near-years" (defined as the upcoming two budget years--in the current case, 1975-76 and 1976-77), or deferred beyond the near-years, or not formally acted upon for various reasons despite being mentioned in a Campus Plan. While the APPR Board has disapproved an occasional program proposal, it has generally not taken the action of formally disapproving a program proposal for all time because of the Board's belief that changing circumstances which cannot be foreseen might make a "disapproved" program viable at some future time. The Board has preferred to dissuade campuses from formally submitting proposals considered inappropriate at present, or, if such proposals are submitted, to defer them on an indefinite basis.

Chart II (shown in prototype form in this section) and the accompanying explanatory notes about the chart's headings and entries illustrate the varying stages of approval by the Office of the President of programs proposed in the Campus Academic Plans. (Chart II will be employed in Section V, "Summaries of Campus Academic Plans," to show the status of the proposed programs on each campus.) It should be emphasized that APPR Board decisions associated with these stages of approval do not substitute for or in any way supplant the established review processes set forth in Chart I. Rather, they precede these processes, and are specifically designed to provide the campuses with a longer-range perspective and adequate lead time to permit readiness of proposals for the established review processes.

Campuses will be expected to submit program lists each year which indicate those proposed program changes that they wish to move forward into the regular review processes. In addition to the other criteria normally employed, appropriate review bodies will look to the conformity of proposed program changes with the general goals and objectives of the relevant Campus Academic Plans. Thus the Campus Plans will continue to provide important guidelines for the review of program changes proposed during the interim years until the Plans may be reviewed and updated.

CHART I

ESTABLISHED SENATE AND ADMINISTRATIVE REVIEW AND REPORTING PROCESSES

Type of Program	Dept., School and/or Inter-discipl. Groups	Senate[1] Div.	Grad. Cncl.	Chan-cellor	CCGA[2]	Acad.[3] Assembly	APPRB Steering Comm.	CPEC[4]	President	Regents
Undergrad. (no new degree)	X	X		X[5]			X	X	X	
Undergrad. (new degree)	X	X		X[5]		X	X	X	X	X
Graduate (no new degree) (Acad. and Prof'l.)	X	X	X	X[5]	X		X	X	X	
Graduate (new degree)	X	X	X	X[5]	X	X	X	X	X	X
Joint Doctoral[6] (Intercampus)	X	X	X	X[5]	X		X	X	X	
Joint Doctoral[6] (with CSUC)	X	X	X	X[5]	X		X	X	X	
Certificate - U. G.	X	X[7]		X[5]			X	X	X	
- Grad.	X	X	X	X[5]	X		X	X	X	
Organized Research Units	X	X	X[8]	X			X	X	X	X
Schools or Colleges		X	X	X[9]		X[10]	X	X	X	X

1/ Includes Committees of the Senate as established on each campus.

2/ For review and approval except where Graduate Council has final Academic Senate responsibility; in latter case, report is submitted through CCGA to the President.

3/ Or Academic Council, acting for the Assembly, when the latter isn't scheduled to meet soon.

4/ For new programs to be initiated after Fall, 1975, all to go to California Postsecondary Education Commission (CPEC) by March 15 of the preceding fiscal year or to have been presented in the Academic Plan submitted to CPEC for two years prior to intended implementation date.

5/ For review and report to President as to resource and other implications.

6/ There are special procedures requiring additional steps for these programs. (This listing assumes no new degree authorizations to be involved.)

7/ Not true on all campuses where there are undergraduate certificate programs.

8/ By consultation at Chancellor's option.

9/ Proposals for schools or colleges originate with the Chancellor.

10/ Or other University-wide Senate body, as appropriate.

CHART II

APPROVAL STATUS OF PROPOSED PROGRAMS
CAMPUS ACADEMIC PLANS - March, 1975
_____ Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77		(2) Accepted for Planning for 1975-76 or 1976-77 - Still Subject to all reviews and priority decisions	(3) Deferred to 1977-78 or Beyond	(4) Mentioned in Campus Plan
	(a) U.C. Review Completed	(b) Status of CPEC Review			
A. UNDERGRADUATE:					
B. GRADUATE (Academic and Professional):					
C. SCHOOLS OR COLLEGES:					
D. ORGANIZED RESEARCH UNITS:					

EXPLANATORY NOTES ABOUT HEADINGS AND ENTRIES IN CHART II ON APPROVAL STATUS OF PROPOSED PROGRAMS

Column (1) Heading: Anticipated for Implementation in 1975-76 or 1976-77.

(a) Heading: U.C. Reviews Completed

Entry = X where applicable

(b) Heading: Status of CPEC Review

Entry = To show applicable status:

Completed: Compl.
Pending: Pend.
To be reported only: Report*

(* This means where reporting only is required under interim procedures not applicable for programs to be initiated later than Fall, 1975.)

This column includes only those programs which have received full approval within U.C. and are either pending or have received review by the California Postsecondary Education Commission (or, as noted above, need to be only reported). After CPEC review (or report, where applicable), the program can be implemented, announced, and put into full operation as soon as resources are available.

Column (2) Heading: Accepted for Planning for 1975-76 or 1976-77 - Still subject to all reviews and priority decisions.

Entry = X where applicable

This column contains programs about which enough is known to warrant listing them for possible implementation prior to the academic year 1977-78. However, all such programs must be subjected to all of the established review and approval processes, including review of budget priorities. No program requiring an augmentation of the campus budget beyond what is already in the 1975-76 budget can be implemented in 1975-76. U.C. approval must be completed by September 1, 1975 for any 1976-77 program requiring augmentation of the campus budget. For those not requiring such augmentation, U.C. approval must be completed by March 1, 1976.

Column (3) Heading: Deferred to 1977-78 or Beyond

Entry = X where applicable

These are programs that have been subjected to some University review but have not been accepted for planning and budgeting in 1975-76 or 1976-77. There may be questions of budget priorities or timing, or questions of appropriateness or need at the present time, yet to be resolved.

Column (4) Heading: Mentioned in Campus Plan
Entry = X where applicable

This column will include all programs specifically mentioned in plans but not in earlier columns. These may include instances where:

A. No formal proposal has been submitted, or there has yet been no University-wide review.

B. There is question as to appropriateness or need.

It is unlikely that any of these will move into approval status for inclusion in the budget prior to 1977-78.

III. HOW THE CAMPUS ACADEMIC PLANS WERE PREPARED

The heaviest concentration of activity on the preparation of the Campus Academic Plans has taken place between the submission of the University Academic Plan in March, 1974, and the present time. But much work on the Plans at both campus and Universitywide levels preceded and indeed helped shape the March, 1974 document.

Planning Steps

The first step in the planning process involved the central preparation, in consultation with the campuses, of ten-year enrollment projections, broken down by campus and by undergraduate and graduate levels. The campuses then made an initial distribution of their enrollments among academic units and related these tentative distributions to academic goals and objectives. All this activity, including several revisions of the enrollment projections, occurred during the period from May to December, 1972.

After the APPR Board reviewed these submissions, the second step in the process took place. The Board issued guidelines to the campuses which included broad funding levels to give campuses the greatest possible flexibility in shifting resources among their component units in accordance with their determination of priority needs. The Board also pointed out to each campus the need for adjusting some campus planning objectives to help meet Universitywide goals, avoiding unused capacity and helping to meet overall student demand and social needs.

The campuses then refined further their initial statements of goals and objectives, and indicated how they planned to distribute resources to accomplish these plans. This series of exchanges between local and Universitywide planners culminated in the development of the Campus Profiles which appeared in the March, 1974 University Academic Plan as brief forerunners of the coming Campus Plans.

The pace of this iterative process intensified after The Regents' adoption of the University Academic Plan in March. In April, 1974, the APPR Board issued a comprehensive set of instructions to the campuses for the preparation of their Campus Plans. These materials included a timetable for the successive drafts and analyses, procedural guidelines, and resource guidelines in the form of current and projected student-faculty ratios at the campus level for the planning period. The guidelines serve as broad resource constraints within which the Plans were developed and evaluated. In addition, sufficient data were requested from the campuses

to permit estimating the resource implications of planning goals and priorities. The instructions emphasized that the outline was not intended to force Campus Plans into a standard mold:

> "The intent is to have Campus Academic Plans that cover the same material and are organized along similar lines. The advantage to this approach is that it enhances the readability and usefulness of the Campus Academic Plans and makes their interrelationship clearer. The content and organization of this outline will enable the development of independent Campus Academic Plans that reflect the special character, emphases and style of each campus."

Accompanying the instructions were statements addressed individually to each campus pointing out how its first step and second step submissions would need to be revised and expanded to meet the specifications for the Campus Plans.

During the spring, summer and early fall of 1974 the campuses worked on the first drafts of their Plans.

Consultation During Planning

It should be stressed that consultation between local campus and Universitywide planners throughout the entire planning process was much more extensive than the issuance of guidelines and the formal submission of materials at specified deadlines. At the staff level, questions and answers, information, and comments were exchanged between local and Universitywide offices on a day-to-day basis. And there was frequent discussion between APPR Board members and Chancellors and Campus Planning Officers.

Each campus was responsible for arranging its own planning staff, committees, and mode of operation. Each campus obviously had to engage in its own iterative planning process with its academic units. The campuses were, of course, expected to consult with their appropriate Academic Senate committees and with student representatives as they drafted their Plans. However, campus consultation mechanisms were not fully developed, in all cases, during this first cycle of coordinated campus academic planning. Further development of these mechanisms is essential as planning proceeds.

At the Universitywide level, faculty and student participation in planning is effected through the presence of both faculty and student members on the APPR Board. Close working relationships with the Academic Senate are particularly important because of the responsibility shared by the Senate and the administration, by delegation from The Regents, in some areas of academic planning and policy. The Vice-Chairman of the Board has had the responsibility of maintaining liaison with the Academic Council of the Academic Senate. Relations with that Senate group were

recently further strengthened by the appointment of the Vice-Chairman of the Academic Council as an ex officio member of the APPR Board. Some of the APPR Board Steering Committee members met with the Senate's University Committee on Educational Policy to discuss the Campus Plans, and that body reviewed and commented on a series of broad academic policy issues related to the Plans. Some of these policy issues were also reviewed and commented upon by the Senate's Coordinating Committee for Graduate Affairs.

Staff Reorganization to Strengthen Planning

During the summer of 1974, while the campuses were working on first drafts of their Plans, a significant reorganization of the Office of the President took place which was designed to add further strength and cohesion to the University's planning activities. Budget operations, which had been under separate jurisdiction, were assigned to the Office of the Vice President of the University. Since that office already had responsibility for the operations of the APPR Board, the reorganization placed both budgetary planning and academic planning in the same administrative unit. The Assistant Vice President--Academic Planning and Resources Management, and the Assistant Vice President--Budgetary Planning, were thus able to work more closely in the translation of approved academic programs into actual budget requests.

At the same time a major new administrative post, that of University Provost, was established in the Office of the Vice President--Academic Affairs and Personnel, with primary duties in the area of implementing academic policy, including the results of the academic planning process. The Executive Vice-Chancellor of the Los Angeles campus was appointed to the post, and became a member of the APPR Board. The former Director of the Office of Analytical Studies (now the Assistant Vice President--Academic Affairs) and a number of his analysts were transferred to provide staff assistance to the Vice President--Academic Affairs and Personnel and the University Provost in the academic policy area, while other members of the former Analytical Studies unit were assigned to the Assistant Vice President--Budgetary Planning.

First drafts of the Campus Plans began to be delivered to the APPR Board in August, 1974, and in September the APPR Board issued a statement about the procedures being followed in the analysis of the drafts. Teams of staff members were made up of analysts from both the educational policy and the budgetary planning areas to help the APPR Board review the Plans both for their academic and their resource implications. Some of these teams were assigned to review individual Campus Plans to evaluate their scope, coverage, quality, general thrust, and relationship to the University Academic Plan. Other teams of analysts undertook a series of cross-campus

reviews of a number of major disciplinary areas (Physical Sciences, Engineering, etc.), functional and resource management areas (Libraries, Faculty Renewal, etc.), and instructional levels (Undergraduate, Graduate and Professional). These cross-campus reviews compared relevant portions of the Campus Plans and evaluated the ways in which they appeared to meet total needs in a given area or to engage in unnecessary duplication or leave gaps which ought to be filled. The cross-campus reviews served further to inform the ongoing campus reviews, adding analytical dimensions that were not apparent from isolated studies of a single campus. A number of the issues brought to light by the cross-campus reviews will require further work and study. The staff reviews themselves will be scrutinized by faculty in the appropriate disciplines and will be revised as necessary to validate them.

Not all campuses had submitted complete first drafts of their Plans at this stage. But those whose drafts were not complete had submitted separately enough supporting materials to give the cross-campus reviews validity as broad surveys of Universitywide resources and plans in given areas.

By early November, 1974, the APPR Board was able to begin sending to the campuses two series of letters about their Plan submissions. One letter was procedural in nature and addressed needs for revising formats and for providing or amplifying various kinds of information. The other was a "substantive policy issues" letter which asked each campus to explore further certain questions that had emerged from the two kinds of reviews just described. Several of the campuses, for example, were asked to re-examine their projected growth rates in Engineering to determine whether the University's overall response in that field might be more optimistic than demand appeared to warrant. Several other campuses were asked to review whether their plans to check expansion in the Biological Sciences might result in a failure to meet the overall student demand for instruction in that area. One campus was asked whether its plans for substantial increases in professional fields might result in any dilution of its present strong program of liberal arts instruction. Each campus was asked to respond to its particular series of issues questions, along with completing other materials, in a semi-final draft. Discussion of some of the major educational policy issues and the specific problem areas that emerged or became more urgent in the course of reviews of the Campus Plans will appear in the following section of this document.

Analytical reviews were continued and refined while semi-final drafts were being completed by most of the campuses. The APPR Board then examined the new drafts both for completeness and for their proposed resolution of the issues

that had been raised. Consultation and negotiation with the campuses resulted in agreement in most instances on necessary revisions. In some instances the APPR Board recommended to the President that certain proposals be deferred to 1977-78 or beyond pending subsequent revision and review. Letters of decision were sent to the campuses about such issues, and final versions of the Campus Plans prepared for the President's review and approval. Section V of this document presents the rationale of each Plan and indicates the action taken on the specific program proposals of each campus.

It should be noted that not all of the Campus Plans went through these exact procedures, since late submissions required the telescoping of some steps. The Santa Cruz campus, with a new Chancellor, was given special dispensation in the meeting of some Plan requirements and deadlines. Berkeley, with a new Vice Chancellor with major responsibilities in academic areas and with a large and complex academic structure, also encountered scheduling problems. But all of the campuses have been able to submit sufficient materials to indicate clear directions of change and development and to permit consultation and revisions to assure that sound progress is being made toward achieving the major objectives of the University Academic Plan. One important item of unfinished business is the completion of Plan reviews by appropriate agencies of the Academic Senate -- reviews that are essential because of the shared responsibility of the Senate and the administration at both campus and Universitywide levels in some of these areas, as previously noted. The tight schedules have meant in some instances that some of these Senate reviews have yet to be completed. Student reviews at the campus level are also incomplete in a few cases. Such reviews will continue over the next few months, and specific details of the Plans may require some revision as a result.

Program Reviews

During the past year another part of the University's planning process, program review, was also being actively carried out. Program review activities were conducted separately from those involving the Campus Plans, but decisions growing out of program reviews were incorporated into the relevant sections of the Plans. As the March 1974 University Academic Plan described in some detail, program reviews are conducted in two academic areas. One concerns proposals for new graduate degrees, and is instituted when such proposals are received from the campuses. The second type, the cross-campus reviews of selected University programs, is initiated at the Universitywide level by the APPR Board when the Board believes development in a given discipline on several campuses may have a significant impact on University planning objectives. Several of these reviews were completed during the past year and others are in

progress. Section IV of this document discusses these program reviews, as well as several other specific problem areas under study by ad hoc review committees.

Continuing Activities

As has been indicated at various points in this document, the stage in academic planning that has now been reached is by no means the end of the planning effort. The process of academic and budgetary planning is a continuous one, with emphasis shifting from one aspect to another of the process at various times during the year. To assure coordination of academic and budgetary planning decisions throughout the year, an internal working document, the Academic and Budgetary Planning Calendar, has been developed. It will be issued on an annual basis. It gives the dates of the various submissions that must be made and of the actions and decisions that must be taken to assure that the whole process moves smoothly forward throughout the year.

IV. SOME CURRENT ACADEMIC POLICY ISSUES AND PROBLEM AREAS

The University's planning activities over the past two years, and particularly the work on the Campus Academic Plans, brought a number of academic policy issues and problems into new focus. Some of these problems were made fully apparent for the first time by the new analytical dimensions of the coordinated planning process, with its cross-campus comparisons and reviews. Others were more familiar issues -- some of them virtually perennial in distinguished universities -- but issues which require renewed scrutiny and sometimes new answers as the needs of society and the world of scholarship change. The planning process, in raising difficult questions about specific planning alternatives, underlined the need for current re-examination of certain of these issues.

This section discusses several of the general academic policy issues and a number of specific problem areas. There is no intention to provide an exhaustive list of academic topics and questions, nor is an attempt made to repeat matters dealt with in some detail in the section of the March 1974 University Academic Plan entitled, "Some Special Concerns for the 1970s," even though work has been proceeding on many of them since the 1974 Plan was issued. Among those topics, for example, was undergraduate education, which is the subject of one of the cross-campus review papers prepared by staff analysts and student members of the APPR Board during the analysis of the Campus Academic Plans. This is still a working paper; the APPR Board is not ready at this time to propose any additional policy statements in the area of undergraduate education. However, the working paper is included as an Appendix to the present document because of the perennial interest of its subject and as an example of the Board's continuing interest in the special concerns for the 1970s discussed in the 1974 Plan.

The APPR Board is deeply concerned with the complex subject of undergraduate education and intends to give it further study. The Board believes that any study of this subject as it relates to the University of California must start with the recognition that excellence and improvement of undergraduate instruction are indeed central goals of the University and that efforts to achieve them are integral to the University's activities. Some of the special programs directed toward improvement of the educational process are described on pages 28-30 of the 1974 University Academic Plan, but instructional improvement is by no means confined to programs expressly identified with this purpose. A great deal of experimentation and innovation is going on as part of regular instructional programs. Many faculty members are developing new modes of instruction, dropping or restructuring old courses and creating new ones, making systematic use of student evaluations in the planning of courses, establishing freshman seminars, trying out different varieties of experiential education, and experimenting with the use of technological aids to instruction in areas where these can be

useful. Many campuses have, and most will eventually have, teaching resource centers which can help faculty members with their teaching problems.

The APPR Board feels that further study of undergraduate education may well reveal that the problems and issues pertinent to the subject are more profound than they are often represented to be. A major segment of the Board, for example, would like to see further study of some often-voiced complaints: that the faculty, or the University generally, neglects the interests of undergraduate students, that teaching undergraduates ranks low among the University's priorities; that too much teaching is unsatisfactory in content, performance, method, or in several of these or other ways.

Several questions need to be considered. How widely held are the views that find expression in such complaints? Do the complaints correctly identify the fundamental problems relating to undergraduate education? Are the commonly proposed remedies getting to the root of the true problems? It is possible that a major source of the discontent lies elsewhere and deeper than has often been suggested. The notion of a liberal education that prevailed from the 1920s through the 1950s has more recently, and particularly since the mid-1960s, commanded less and less of a consensus. It seems possible that the current versions of general education for undergraduates are not meeting adequately the needs of many students, not because of shortcomings in faculty teaching, but because there is not sufficient understanding of or agreement about the proper aims and purposes of undergraduate education in the 1970s. The APPR Board members have as yet no consensus about answers to these questions.

There is no doubt, however, about the Board's agreement that the education of undergraduates is a central concern of the University. It is vital that the University be able, in its undergraduate programs, to challenge, stimulate, interest, and inspire a large proportion of its undergraduate students, in such a way that the University's dedication to the quality of its undergraduate education will be self evident.

There will always be debate about the best way to plan the content and conduct of education. The APPR Board has not regarded as its particular assignment the proposal of answers to questions raised in such debate. But the Board will continue to study and discuss ways in which the University can be moved to keep undergraduate education vigorous and responsive to student needs. The Board can perhaps serve as a mover and a shaker. The doing is a matter for the Academic Senate, individual faculty members, student groups, and individual students, aided in appropriate ways by campus and University administrations.

The focus in the rest of this section is on some other areas of special concern from the Universitywide point-of-view which have direct consequences for the University's current round of academic planning, and which did not receive major attention in the March 1974 document. It should be noted that the Campus Plans themselves do provide generally exhaustive coverage of the academic programs and activities on their respective campuses.

General Academic Policy Issues

The circumstances that have had the greatest impact on University of California planning for the 1970s are the sharp reduction in enrollment growth and the considerable curtailment in the growth of fiscal resources. These circumstances have led to a number of new academic planning questions. The questions are not simply abstract or theoretical. They have arisen directly from specific issues that have had to be dealt with in the preparation of the Campus Plans. Many of these questions can be grouped under three broad policy areas where current choices between sometimes conflicting courses of action must be carefully weighed:

Comprehensiveness and selective development
Demand and balance
Flexibility and long-term commitments

The discussion that follows will cite policies which the University is currently applying to its academic planning issues, and will give some examples to illustrate their application to specific questions. Some of these policies are of long standing but have been reaffirmed as appropriate to today's needs; others have been reshaped, made explicit for the first time, or newly established to meet the University's changing circumstances.

The Overriding Policy: Quality

The University of California has become a great university in large part through its firm commitment to quality. It will be able to retain that stature only by a continuing insistence on quality. Some of the difficult planning choices that confront the University would be superficially eased if the University were to accept some lowering of scholarly standards. But the long-term academic interests of the University, the State and the nation will be best served by the preservation of high scholarly standards. Therefore,

among the academic policy choices and planning decisions which the University must make from time to time, the overriding consideration will be insistence upon a high level of academic quality.

University insistence on quality is exercised through a number of rigorously applied policies and procedures, including admissions policies, criteria and procedures for the appointment and advancement of faculty, and review processes for the establishment of new academic programs. It remains to be noted, however, that neither these policies and procedures, nor the most careful academic planning, can substitute beyond a certain point for a basic level of resource support. A case in point is the University's student/faculty ratio. That ratio is actually a finely-tuned figure representing a carefully devised composite of widely varying class sizes at all levels and in all disciplines throughout the University. Many instructional situations, at the undergraduate as well as the graduate level, require the use of small classes or seminars and the opportunity for more personal interaction among students and faculty. The University does, of course, have a policy setting minimum limits on the size of classes at the various levels. To offset the obvious resource needs of smaller classes, the University schedules large lecture classes wherever that is educationally feasible. Used in appropriate instructional circumstances and taught by senior faculty members, all of whom are expected to share in such instructional responsibilities at the University, these large lecture classes are of excellent quality. But for the totality of the University's instructional needs, a variety of class sizes as reflected in a carefully-calculated overall student/faculty ratio remains essential to the maintenance of quality.

Comprehensiveness and Selective Development

From its beginnings the University has undertaken to offer, as soon as resources permitted, programs in every subject area considered appropriate for university-level instruction. The University, at its single initial campus, Berkeley, offered a comprehensive academic program. Questions of selective development of programs did not attain great significance until additional campuses were established. Even then, selective development was not a key issue so long as expectations of ample growth and ample resources led to the then-logical assumption that every campus would eventually have a fairly comprehensive academic program at graduate as well as undergraduate levels.

The curtailment in the growth of enrollments and resources which became evident at the outset of this decade raised new questions about comprehensiveness and selective development. The University's Growth Plan Task Force began pointing out the consequences by 1971, and The Regents took official cognizance of the new outlook in mid-1972, when the University Growth Plan was adopted in principle. Enrollment demands no longer warrant, nor do projected resource levels permit, comprehensive programs of high quality at all instructional levels on all University campuses. Some selectivity in the development of programs has become essential. The difficult planning

questions concern which areas or levels need to have comprehensive programs, which should have selected programs, and what factors determine how the selected programs should be distributed throughout the University.

Excellent programs in every university-level field of recognized scholarly and professional importance will be provided somewhere in the University of California system.

All programs will be of high quality, but it is in the nature of things that certain programs may achieve unusual distinction.

In every subject area appropriate for a university, the University of California will seek to foster one or more programs of the very highest quality and will seek to enable every campus to have a share of these highest-quality programs.

Berkeley has a full range of excellent programs, Los Angeles a somewhat smaller but still substantial array of excellent offerings. Nationally recognized programs on campuses which have a more limited number of such offerings include Astronomy at Santa Cruz, Psychobiology at Irvine, Entomology at Riverside, Botany at Davis, Pharmacology at San Francisco, Biology at San Diego, History at Santa Barbara.

The University of California is one of the leading research universities in the world. Within the State's system of public higher education, it is assigned primary responsibilities for advanced scholarship and research. Accordingly, it has special obligations at the frontiers of scholarship, and must continue to explore new academic areas and to add those which prove significant to its comprehensive array of programs.

The University will continue to place high importance on its special responsibilities to lead in the exploration of new academic areas and to develop and offer programs in those found to be promising of scholarly or professional significance.

New areas and potential new areas discussed in the Campus Academic Plans include programs in Applied Ocean Science and Energy and Natural Resources at San Diego, the latter allied with the Center for the Study of Energy; an inter-departmental program in Environmental Science and Engineering at Los Angeles and one in Environmental Science at Davis; the programs in marine sciences at Santa Barbara and Santa Cruz which are mentioned in the discussion of marine sciences in the following section of this report; the broadly based program in Social Ecology at Irvine; and the developing programs in the College of Natural Resources at Berkeley. This College represents a restructuring of the former School of Forestry and Conservation and the College of Agricultural Sciences in order to integrate traditional aspects of agriculture with related social issues.

At the level of undergraduate instruction, the University has responsibilities to provide comprehensive programs on each of its general campuses. Undergraduate students are not as highly mobile as graduate students, and a geographic spread of comprehensive programs should be provided. Many undergraduates will enter a University campus in the lower division and do all of their undergraduate work on that same campus. Undergraduate students often have not decided upon their academic goals when they enter the University, and they should have some exposure to most of the generally recognized core discipline areas so that they can choose their goals soundly.

Each general campus will provide undergraduate offerings in significant subfields of the humanities, physical sciences, biological sciences, social sciences, and fine arts.

All general campuses provide this kind of undergraduate coverage in the core discipline areas. At Santa Barbara, for example, a total of 42 departments, programs, and areas offer undergraduate degree programs within the College of Letters and Science. Riverside has 29 undergraduate departmental majors and 26 interdepartmental majors. Even the newer campuses such as Irvine and Santa Cruz provide comprehensive core coverage at the undergraduate level, though under different organizational arrangements from those on the older campuses.

In addition to comprehensive offerings in the core disciplines, almost all campuses in recent years have introduced courses, including some majors, in response to student proposals for offerings deemed particularly relevant to current problems and interests. Some of these programs appear to have lasting interest and will probably become part of the "core" curriculum; others may be discontinued or revised as student interest shifts. It should be noted, of course, that only those programs are offered which are judged to have sound academic value. Another trend which the campuses have encouraged is the design of individual majors by students who wish to combine the available course offerings into a sequence different from any formally established on a campus, or one which faculty advisors find appropriate both to University academic standards and the individual student's educational goals.

Beyond the regular comprehensive offerings at the undergraduate level, the University will seek to provide additional courses, including majors, in

response to expressed student interests. The University will also facilitate student use of individual majors.

The University considers it appropriate to provide for some undergraduate specializations on only one or a few campuses for those students who are strongly motivated to pursue these specializations.

Certain undergraduate majors in areas outside the generally recognized core discipline areas will be offered on only one or a few campuses in keeping with levels of student interest and resource requirements.

Examples of undergraduate majors offered on one or a few campuses include Nuclear Engineering, Religious Studies, Speech and Hearing, and individual majors in the College of Creative Studies at Santa Barbara; Aesthetic Studies at Santa Cruz; Comparative Culture at Irvine; Avian Sciences, Wildlife and Fisheries Biology, and Child Development at Davis; Applied Geophysics, Cybernetics, Engineering Geology, Planetary and Space Science, Meteorology, and a Motion Picture/Television specialization in Theater Arts at Los Angeles; Biomathematics at Riverside, Urban and Rural Studies at San Diego; and Conservation of Natural Resources and the Political Economy of Natural Resources at Berkeley.

In fields where majors are not offered, campuses will provide some access to the fields by offering limited numbers of courses consistent with student need and interest and with the availability of resources. Offering such courses carries no implication that the campus will subsequently offer majors in these fields.

The San Diego campus, for example, is able to offer some courses, although not majors, in astronomy and astrophysics because the Department of Physics has faculty strength in these areas.

Academic discipline units have important responsibilities to students other than majors. Some departments have extensive obligations to provide service courses required by other departments. Some departments have substantial demands for course offerings of general educational interest as electives for non-majors.

In planning their instructional programs, academic discipline units will be sensitive to the needs and interests of non-major students as well as to those of majors.

The increasing use of individual majors and the fact that certain other majors are offered on only one or a few campuses places a heavy responsibility on the University for appropriate advising and counseling of undergraduate students. Many students do not make decisions about their academic goals until after a year or two of exposure to a variety of discipline offerings. Even then, they may need assistance in selecting their objectives, and they will certainly need adequate information about the broad range of offerings throughout the University and help in transferring to another campus if it should turn out that their educational goals can best be met elsewhere within the University.

The University will seek to strengthen academic and career counseling to help students to select educational goals, and will attempt to facilitate intercampus transfer of continuing students when the achievement of their educational objectives requires such transfer.

The Davis campus outlines in its Academic Plan a particularly comprehensive plan for improving the advising and counseling available to assist students in defining their educational objectives, as well as to help students whose goals are established, such as pre-professional students in the health sciences and pre-law fields. Davis also has a Work-Learn program to assist students in clarifying their personal and educational goals, to provide practical educational experiences, such as internship, outside the classroom, and to help students discover and explore career opportunities. The campus plans to expand this program.

On the mature campuses, and especially Berkeley and Los Angeles, where academic programs at both the undergraduate and graduate levels are extensive and fully developed, facilities and resources for new programs or changing program emphases can generally be obtained only by cutting back existing programs. Even on the growing campuses, it may occasionally be desired to replace established programs with others of current higher priority. Such curtailments of existing programs will have inevitable planning impacts throughout the University system. Comparable programs may have to be expanded or new programs established on other campuses to meet continuing demand and to assure continuing comprehensive coverage of the field somewhere in the system. But other campuses may lack the resources to offer programs of comparable quality until resource allocations are made and until qualified faculty are provided.

Until the present time, as was pointed out in Section II, no systematic review procedures have been established to deal with the substantial reduction or discontinuance of a program. The University is now considering the formal adoption of review processes for the discontinuance of a program parallel to those which would be required for the introduction of such a program (See Section II, Chart 1). Pending such a step, the following policy is in effect:

> *In planning the discontinuance or substantial reduction in the size or scope of established academic programs, campuses will first consult with appropriate University-wide agencies to review the possible consequences of such reductions for offerings elsewhere in the University.*

At the level of graduate academic instruction, the University is responsible for providing a comprehensive array of significant programs somewhere within the institution but not on each campus. Graduate students have already chosen their academic goals. They are expected to be sufficiently mobile to travel to particular campuses where programs in their chosen fields are offered. Demand for graduate instruction in a given field is more limited, than for instruction at the undergraduate level, and instructional costs are higher.

> *In the area of graduate academic instruction, the University will enable each campus to develop selective programs which will avoid unwarranted duplication of those on other campuses and will contribute toward providing total Universitywide coverage of significant academic fields.*

> Current examples of such campus specializations include Oceanography at San Diego, Nuclear Chemistry at Berkeley, Agricultural Sciences at Davis and Riverside, Theater Arts and African Languages at Los Angeles, and Religious Studies at Santa Barbara. The older campuses, and particularly Berkeley and Los Angeles, will have a large number of graduate academic programs, while the newer campuses will of course, have fewer such programs. The distribution of selectively developed programs among campuses to assure the high quality of the programs and to provide for their maximum contribution to other campus programs is a central University planning goal.

> *In planning and approving new graduate programs, and especially new doctoral programs, the University will give preferential consideration to proposals from campuses which can demonstrate that programs will capitalize on existing strengths or special opportunities such as uniquely qualified faculty or outstanding facilities or geographical location.*

Like graduate academic programs, professional programs will need to be comprehensive in their totality within the University but distributed on a selective basis among the campuses. The location of professional programs, like that of graduate programs, should take into account, where possible, existing strengths in associated academic areas. The University recognizes the increasingly valuable level of interaction which is taking place between professional and academic programs. Some professional schools are participating with academic disciplines on their campuses in promising interdisciplinary activities. Professional programs are unique, however, in their close ties to professional practitioners in their surrounding communities and, for some programs such as the health sciences, their public service to surrounding communities. These unique factors give geographical location an unusually significant weight in the distribution of professional programs.

> *A full array of professional schools of high quality will be provided somewhere in the University system, so far as available resources permit. The distribution of schools among campuses will take account of such factors as existing strengths in allied academic areas and the broad geographical spread of associated public service activities and relations with the practicing professions.*

The combination of comprehensiveness at the undergraduate level and selectivity at the graduate level presents the University with a serious problem relating to the recruitment and retention of faculty. Substantial numbers of faculty must be recruited to offer comprehensive undergraduate programs on a given campus, but University of California caliber faculty may be reluctant to accept appointment unless they can be assured of adequate opportunities to participate in graduate instruction. Such opportunities may be limited by the policy of selective development at the graduate level. One possibility for increasing these opportunities is through increasing use of intercampus graduate programs in areas where resource levels and demand do not justify the presence of full programs on an individual campus.

> *To expand opportunities for faculty and student participation in graduate programs whose establishment on individual campuses is not warranted, the University will strongly encourage and facilitate the further development of intercampus graduate programs.*

The comprehensiveness of academic offerings throughout the University will obviously be enhanced and resources better utilizied to the extent that selective programs in the same academic fields are carefully planned to be complementary to

one another. Such planning at the campus level requires adequate information about the present shape and intended future directions of programs in the same or allied disciplines on other campuses. The current round of University planning and review has revealed that such information is in many instances not widely shared across campus lines. This fact was noted by the special committee appointed to review all the University's programs in the field of administration, to cite only one example. Accordingly,

> *The Office of the President will allocate funds and take other appropriate steps to promote participation by faculty and administrators in intercampus planning by disciplines, to assure improved complementarity of selective program development among the campuses.*

One device to promote such intercampus planning is the holding of conferences involving faculty in the same discipline from all campuses offering programs in the discipline. Such a conference was sponsored in 1973 for faculty in the biological sciences.

Demand and Balance

Two of the major factors which affect academic planning in the University are demand and balance. Demand is a factor external to the institution, and is here used to denote both specific levels of student demand for various academic programs and broader indications of societal need for training or the results of scholarship in given areas. Balance is an internal matter -- a conception of the "ideal" configuration of various disciplinary components and emphases that comprise a complex academic unit such as a university campus. The notion of the most desirable academic balance varies from campus to campus, depending upon the particular goals and objectives of the given campus and on the judgments of its faculty and academic administrators.

Levels of demand and considerations of balance are among the reasons most frequently cited in proposals for adding or dropping academic programs or otherwise changing academic emphases. Sometimes these two factors reinforce each other -- adding a program in response to student demand or societal need can work at the same time toward achieving the desired balance on a given campus. In other cases, however, responding to demand might produce results that run directly counter to desires to emphasize different academic fields for the sake of the campus conception of proper balance. Then careful planning assessments must be made of the accuracy of demand projections, the likely persistence of the demand, and the weight to be given considerations of balance.

The basic parameters of student demand at the undergraduate level are set by the State's Master Plan for Higher Education which provides that the University shall select its freshmen entrants from the top one eighth of graduates of California public high schools. University admission policy provides, further, that

> *The University will accept all qualified undergraduate students, including transfer students, at campuses somewhere within the institution, and will offer admission to exceptionally able applicants from outside the State.*

Undergraduate student demand fluctuates over time among major disciplinary fields. It is in this area that demand may at times and on particular campuses run counter to campus concepts of balance. Several examples of this kind of tension have arisen in development of the current Campus Academic Plans, although the issue is never completely clear-cut because of the difficulty of making definitive projections of demand. One instance is the situation in the biological sciences, where student demand has been heavy and may continue to be heavy for some time. Several of the campuses stated that they did not plan further expansion in the biological sciences partly because of their wish to expand other academic areas instead for the sake of academic balance. At least one campus expressed its conviction that demand in the biological sciences is now beginning to level off. The APPR Board has indicated that current Plans may need revision if demand in the biological sciences does not give evidence of continuing at high levels. An allied problem, of course, is that of providing capacity sufficient to accommodate continuing high demand in the field.

> *The University will continue to respond to sustained student demand in appropriate academic fields by providing for adequate growth in those fields, although not necessarily on every campus. Current capacity may, however, set temporary enrollment limits in some programs.*
>
> Programs to which such capacity limits currently apply include biological sciences, painting, and music performance.

Campus enrollment ceilings, limits on campus growth rates, or temporary capacity limitations in particular programs on a campus may from time to time require redirection or referral of some undergraduate student applicants to another University campus. At present, only two campuses, Berkeley and Davis, are finding it necessary to redirect students because

of overall enrollment limitations, and students who do not wish to accept fall quarter redirection to an alternate campus can often be admitted in either the winter or the spring quarter, except in programs with capacity problems.

At the graduate level the University does not have a broad and well-defined admissions policy comparable to its policy at the undergraduate level. Graduate students are admitted to pursue definite degree objectives of their own choice, and they must meet the admission requirements established for the particular degree program in which they wish to enroll. The minimum requirement for admission, established by the Graduate Division on each campus, is in general at least a 3.0 grade point average in the main body of undergraduate work deemed necessary as preparation for entry into the graduate program, but a student who meets the 3.0 standard of scholarship will not necessarily be admitted to the program of his or her choice. Each applicant's qualifications are scrutinized in detail, and many factors besides the scholastic record (letters of recommendation, work experience, evidence of motivation, etc.) play a role in the admissions decision.

Although the details of admissions policy and admissions criteria vary from program to program, there are a few general considerations that apply throughout the University. The University aspires to have all of its programs meet standards of quality characteristic of the best public and private research universities in the United States and the world. As is typical of all such universities, the University of California seeks a graduate student body of a quality able to profit fully from strong graduate programs and to work with a faculty of outstanding ability and distinction. The graduate student body is drawn not only from California, but attracts students from all over the nation and from abroad.

> *At the graduate level the University of California is more than a State institution; it is a national and international university. The University's policy is to maintain this situation, which is beneficial to the University, the State of California and the nation.*

The size of the University's graduate enrollment cannot and should not be determined exclusively or even mainly by manpower requirements or the availability of employment opportunities specifically related to the expertise acquired during their studies by recipients of graduate degrees. The University has an obligation to provide students with all available information about probable employment prospects within their field of choice, and reliable information about

manpower requirements and the availability of jobs has a reasonable place in University planning of graduate programs. But the urge to pursue knowledge is strong in human nature, as it should be, and it is part of the mission of the University to discover and transmit knowledge for the ultimate benefit and cultural enrichment of society. Graduate study has a role in preparing people for professional, scientific, scholarly, and artistic careers. However, in the rhythm and flow of society, graduate work today need not always be tightly linked to the job market of an immediate tomorrow. The University should welcome the challenges of the intellectual and cultural motivations of the citizenry and should be reasonably responsive to the desires of well-qualified students seeking admission to graduate study.

> *The University's graduate programs, in the aggregate, will continue to be designed to fulfill broad intellectual and cultural needs of individuals and society as well as to provide preparation for careers to graduates of the programs. In connection with the latter objective, the University will seek to provide students with all available information about employment possibilities in their respective fields.*

A source of support which is of major importance to graduate education and, increasingly, to undergraduate education as well, is the University's program research. Because the University is national and international in its academic stature, it receives research support from sources outside the State as well as from the State itself.

> *The University will continue to seek support from the State and from federal and other extramural sources for a strong program of organized research, both for the contributions that research makes to the fundamental pool of knowledge and for its central role in graduate instruction.*

In approving new graduate programs and especially new doctoral programs, University policy is to give preferential consideration to those which build upon existing campus strengths (see the discussion of this policy in the preceding subsection on comprehensiveness and selective development). In a sense, building on existing strength runs counter to notions of balance and appears to accentuate imbalance among academic emphases on a campus. But the University believes that capitalizing on available strong fields will result in graduate programs of high quality and will make optimum use of available resources. One way in which campuses might be able to offset any imbalances resulting from building on strength is through the development of interdisciplinary graduate programs which build on strength in one area while

at the same time improving the scope and quality of offerings in another area. An example of this approach is a proposal for a new Ph.D. program in the political science area at San Diego (which has not yet been reviewed and approved). The proposed program draws upon San Diego's strengths in certain scientific and technological fields as a framework for the analysis of public policy in these areas. The program would provide the campus with an opportunity for expanding its work in political science, which is desired for reasons of balance, and would also add to the University's offerings a new specialization in a significant area not being pursued elsewhere.

The University will encourage the development of interdisciplinary programs as a means of building selectively on a base of existing campus strengths while preserving or enhancing campus academic balance. Organized research units may serve as a base for such development.

It is recognized that interdisciplinary approaches often contribute importantly to the expansion of knowledge and thus help the University fulfill its obligations for leadership in the exploration and development of new academic fields, such as area studies, molecular biology, and neurosciences.

Many of the observations made about graduate academic programs apply also to the University's professional programs. The individual professional schools determine their own admission standards, for example, and there is considerable variation in the factors which govern their rates of admission. Some of the programs have extremely high costs per student (medicine, for example) while others are much less expensive (law). Some have close ties with and provide access to highly structured and licensed professions (many of the health sciences, law) whereas others lead to much broader and less rigidly structured professional opportunities (business administration). The market for graduates varies widely from one professional field to another, and from time to time within a single field (engineering, education).

Professional education in the University serves two related but distinct kinds of needs. One, and this is the more traditional perspective, is the training of practitioners for specific kinds of professional fields. The other is the use of professional education as a kind of capstone to the

undergraduate liberal education of able students. Many students are looking for some additional training and skills to improve their opportunities for significant employment, although not necessarily employment in a specific professional field. Training leading to professional degrees in law and administration, in particular, can open opportunities for employment in a number of areas outside their immediate fields of practice -- opportunities in government, politics, foundations, advocacy programs, and the like. There is substantial student demand in these professional fields. To base the size of these kinds of multi-purpose professional schools on "market prospects" narrowly viewed would be to deny society an essential source of educated manpower capable of contributing in the future in ways not necessarily well-defined at present.

The University will seek to expand its professional degree programs in fields which can add specific skills to undergraduate education in ways which lead to a variety of employment opportunities, and which are relatively inexpensive in cost per student.

There is also, of course, more demand by qualified applicants than the University can accommodate in many of the professional schools which train practitioners for specific fields (medicine, dentistry, veterinary medicine, etc.). At the same time, the State of California relies heavily on the in-migration of professionally trained practitioners in some of these same fields. Within the limits of its available resources, the University has sought to provide additional facilities to meet the qualified demand for such training. But there is obviously a sharp conflict between what the needs, both individual and societal, appear to be and public policy as reflected in budgetary support provided to the University.

The University will continue to seek State resources to enable it to provide opportunities for professional education to increasing numbers of qualified applicants, particularly where the opportunities for training open to California residents are unduly restricted and where the State must rely on in-migration of practitioners to meet the needs of its citizens.

One other important policy with respect to student and societal demand needs to be reiterated here, and that is the University's obligation relating to affirmative action in the student area.

The University will continue its efforts to encourage the enrollment of greater numbers of qualified students from previously under-represented segments of society, including minorities and women, particularly at the graduate and professional levels.

Flexibility and Long-term Commitments

The University commits most of its resources on a long-term basis, in tenure appointments for faculty and in regular support for long-established on-going programs. These long-term commitments are essential to the steady development of the institution and the achievement of a high level of quality. The University finds it equally important, however, to maintain sufficient flexibility for the introduction of new academic areas and faculty trained in those areas, for new responses to student demand and societal need, and for the phasing out of programs whose academic priorities have fallen over time.

The rapid growth which marked the 1960s gave the University flexibility to bring in a number of young faculty members and to add important new programs and even new campuses with a diversity of organizational and instructional approaches. But the University cannot look to growth as the primary source of flexibility in the 1970s. The answer now lies in the most thoughtful planning for the use of faculty and other resources to keep the University a dynamic, creative institution during the slow-growth or no-growth years ahead.

Some flexibility over the longer run is achieved by institutional readiness to re-examine academic programs periodically and to reduce or eliminate programs whose priorities are now found to be lower than those of new programs awaiting funding. In a period of rapid growth, new programs can usually be funded out of new monies, and so there is not as much urgency and pressure to pursue all of the possibilities of reallocation. One advantage of a slow-growth period is that it forces a healthy and vigorous review and reassessment of long-established programs.

The University will continue its on-going series of program reviews, at both the campus and Universitywide levels, as a major means of maintaining flexibility and vitality in its academic programs.

Descriptions of some recent and current program reviews will be found in the second part of this section.

With the very tight budgets that have resulted from the past several years of fiscal stringency, campuses urgently need some means of short-term flexibility to meet abrupt enrollment shifts and other unforeseen contingencies and to be able to respond to sudden academic opportunities of unusual promise. The Office of the President currently provides a fund which is allocated annually to the campuses (roughly in relation to

their size) for such contingency purposes. Campuses may use these monies only for temporary, one-year commitments, and the funds are subject to recall by the President's Office at the year's end for reallocation among the campuses on reassessment of temporary needs. In addition to these Universitywide funds, local campus funds have been established for similar short-term use to provide greater intracampus flexibility.

> *The Office of the President and the campuses will develop further the existing policy of reserving appropriate portions of total available resources for temporary allocation according to need, in order to provide essential margins of short-term flexibility in the support of academic programs. This will be continued to the end that, whatever contingencies may arise, the University will be able to insure the uninterrupted influx of new faculty talent, the development of new academic programs, and the maintenance of an appropriate balance of resources among and within the campuses.*

Perhaps the most important way of assuring freshness and flexibility in the University of California is through faculty renewal. It is essential that an adequate flow of new faculty members be brought into the institution to assure the continuing introduction of new academic ideas and the capacity to deal with new fields as well as with old fields in new ways. In a slow-growth or no-growth period, the problem of maintaining this flow becomes acute. During the current round of academic planning, the subject of faculty renewal (renewal both in institutional terms of the faculty as a whole and in terms of preparing individual faculty members to meet new needs) has received extensive study. Each campus was asked to develop specific programs to assure faculty renewal within its major academic units, and these programs are described in the Campus Academic Plans. At the same time, the central University administration has taken other steps to enlarge the opportunities throughout the University for faculty renewal.

> *The Office of the President will improve and expedite, as necessary or useful, existing procedures for early retirement and intercampus transfer of faculty. Special leaves in addition to sabbatical leaves to enable present faculty members to enhance their ability to contribute to changing academic areas will be encouraged, and the Office of the President will seek to provide supplemental funds (within budget limitations) to facilitate such leaves.*

Some measures of faculty renewal can be achieved through the broader exchange of faculty among campuses, either temporarily

or on a permanent basis. Replacements for sabbatical leaves, for example, might be recruited from other campuses providing opportunities both for bringing new faculty talent and outlooks to a campus and giving individual faculty members the opportunity for self-renewal through new teaching and research opportunities in a new campus context. Such a practice should not, of course, be carried to the point of making the University provincial or too inward looking. Some faculty vacancies are needed to provide opportunities for bringing in prospective new faculty members on a trial basis.

Whenever it will serve the purposes of faculty renewal, either individual or collective, academic units are encouraged to begin recruiting for visiting and permanent appointments by looking for suitable candidates within the University.

In staffing their programs during the slow-growth years just ahead, academic units will need to be alert to opportunities for making temporary appointments. Broader use may need to be made of visiting and postdoctoral scholars. This is especially important for departments that have unusually heavy total instructional loads because of the extensive use made of their courses as breadth or required service courses for students from other departments. The use of permanent ladder faculty to meet the entire instructional needs of such departments would result in total long-term faculty commitments out of proportion to the actual size of the discipline and foreclose opportunities for faculty renewal. It is important, however, that temporary staff not be concentrated at the undergraduate instructional level, depriving undergraduates of the opportunity for contact with senior faculty members in these departments.

Academic units should consider the optimum staffing mix of ladder faculty, postdoctoral scholars and other temporary appointments in order to maintain flexibility while meeting total instructional requirements. Regardless of total staffing mix, ladder faculty will continue to have responsibilities for teaching both undergraduate and graduate students.

The University is currently seeking to meet its obligations to add more women and more minorities to its faculty. Since recruiting possibilities are limited during this slow-growth period, it is important that sufficient faculty renewal measures be provided to create opportunities for affirmative action.

The University will utilize faculty renewal activities to expand opportunities for meeting its affirmative action responsibilities.

Although review of the Campus Academic Plans did not specifically elicit concern about flexibility in physical facilities, it is clearly evident that, as the growth rate declines, great emphasis must be placed on providing for the maximum flexibility in any future space constructed on the campuses; therefore,

> *In reviewing capital project proposals, an important criterion will be the degree to which the proposed structures can serve multiple needs as well as the needs of the planned initial occupants. Of course, some structures have highly specialized functions and in those cases the stated criterion cannot apply. Attention will be given to the flexibility of existing campus space when applying this criterion to planned additional structures.*

Specific Policy Questions

In addition to the more general academic policy issues discussed in the preceding section, academic planning activity during the past year has included work on a number of more specific policy questions which were raised in different ways and which pertain to various kinds of areas. Some of them relate to multicampus offerings in academic or professional disciplines or groups of disciplines -- such as administration, marine sciences, education, or the health sciences. Some of them are concerned with functional and support areas which cut across campus and discipline boundaries -- the chief examples here are libraries and computer resources. Some of them apply at the present time to only one campus, but have broader implications which will be explored in the course of resolving the narrower questions -- questions of this type that are discussed in this section relate to the proposed law school at Santa Barbara and a proposal to establish a Ph.D. in the Classics on the same campus.

The problems discussed in this section are at various stages of resolution. In some cases, the issues have been recognized, defined, and they are either resolved or there are firm procedural arrangements established to deal with them -- administration, marine sciences, veterinary medicine, and computer policy are examples in this category. Some issues have been recognized and defined, and work on them is in progress, with resolution expected within about a year -- library policy, health sciences other than veterinary medicine, and education fall in this category. Then there are issues which have been recognized but on which most of the work has yet to be done, such as the fuller use of intercampus graduate degree programs, and the question whether -- and, if so, where -- the University should plan to provide additional law school capacity. These two last mentioned issues are discussed in this section with reference to specific campus problems, but they also relate to some of the more general academic policy issues discussed in the foregoing section.

Many of the discussions in this section refer to the appointment of ad hoc review committees or groups. These review bodies were structured to include faculty members and academic administrators from a number of campuses and members from outside the University and even outside the academic community in appropriate cases. University members on these bodies were, in all cases, expected to serve not as representatives of their campuses or their particular academic or professional disciplines, but rather to bring to the deliberations of the review group their academic or professional expertise in the broadest sense of the term.

Administration

Administration was one of the fields indicated in the University Academic Plan presented to The Regents in March, 1974, as having been selected for early University-wide review. These fields were chosen on the basis of the following rationale: "Disciplinary areas marked for early attention are those in which proposals have been made for introduction or expansion of work on a number of campuses, or in which substantial changes in student demand or social need suggest the desirability of re-evaluation of total offerings and associated activities." In the case of administration, two campuses, Davis and Santa Barbara, were proposing to implement programs already approved by The Regents -- in 1967 -- but not yet funded, and the University already had programs in operation on four campuses -- at Berkeley, Irvine, Los Angeles, and Riverside.

The special review committee appointed in December, 1973, submitted its report in April, 1974. Faculty committees and campus administrations were given an opportunity to review and comment on the committee's report and recommendations, after which the APPR Board -- in late October, 1974 -- made its own recommendations to the President of the University. The President's decisions about these recommendations were conveyed to the Chancellors of the campuses concerned on October 31, 1974.

The review committee and the APPR Board both found that the School of Administration and the Graduate School of Public Policy at Berkeley, the Graduate School of Administration at Irvine, and the Graduate School of Management at Los Angeles generally represent a quality consistent with the standards of the University of California. They noted that appropriate attention was being paid on the campuses to the maintenance and improvement of this quality with respect to faculty, students, and program content. The committee pointed out that a shortage of financial support for graduate students presents an obstacle to the recruitment of many highly qualified students in many or most of these programs.

Some suggestions were made for modifying the proposed curriculum leading to the Master of Public Administration in the Department of Political Science at Los Angeles, to give it more adequate breadth and rigor to prepare students adequately for a professional career in public administration; an alternative suggestion was made that the program be oriented as an M.A. in Political Science with emphasis in public affairs.

With regard to the Graduate School of Administration at Riverside, the review committee recommended, and the APPR Board concurred, that plans should be developed and implemented by the campus administration, in consultation with appropriate bodies of the Academic Senate, to strengthen the School. Recommendations to this end are now being developed at Riverside through the campus review processes, and the APPR Board will make a follow-up review of progress in the Spring Quarter of 1976. The campus is to keep the University Provost informed about the development and implementation of its plans for improving its program.

It was decided that the proposed program in administration at Santa Barbara could not be approved at this time, basically because there is capacity to accommodate all qualified students in the present schools and programs and no additional capacity can be justified. However, the proposal from Santa Barbara might better be described as a program of interdisciplinary studies than as a school of administration, and this sort of program might well be pursued without the establishment of a school.

The decision in the case of Davis was that the Graduate School of Administration cannot be funded at this time, for the same reason as that cited above with respect to Santa Barbara. However, the APPR Board will review the Davis program in two years in light of developments at that time, and the present decision does not mean that the earlier academic and Regental approvals of the School are rescinded. The Board, meanwhile, will follow with interest the development of the Riverside-Davis cooperative Extended University program in administration. Davis is retaining the discussion of the Graduate School of Administration in its Academic Plan, but with the proviso that implementation will not occur before 1976-77 at the earliest.

Marine Sciences

Marine sciences was selected for early University-wide review primarily because both the Santa Barbara and Santa Cruz campuses proposed, in the campus profiles included in the 1974 Academic Plan, to expand their activities in marine sciences. Santa Cruz wished to establish a formal organized research unit in the field, Santa Barbara to continue the development of a unit already established.

The Board appointed a special review committee in March, 1974. That committee, charged with a systemwide review of the University's offerings in certain areas of marine sciences and related fields, transmitted its report to the APPR Board in September, 1974. Copies of the report were subsequently circulated to the Chancellors of those campuses covered in the review for their comments, and to the Academic Council, the University Committee on Educational Policy, and

the Coordinating Committee on Graduate Affairs. The Chairman of the review committee responded to the comments, and the objections to the report that were raised in them were, for the most part, resolved.

Three areas of special University-wide concern emerged from the review: (1) the need for support for existing or proposed organized research units in marine sciences at Santa Barbara and Santa Cruz; (2) the need to improve administrative and academic arrangements at the Bodega Marine Laboratory; and (3) the need to provide ship support for coastal studies conducted by units other than Scripps Institution of Oceanography. The review committee made favorable recommendations concerning all these needs to the APPR Board.

Following the review committee's recommendations, the Board supported current budget requests for operating funds for the Marine Science Institute (established as an ORU) at Santa Barbara, in the amount of $38,000 and for the Coastal Marine Center at Santa Cruz (not yet designated as an ORU, but in process of review -- this unit is presently operating as a departmental laboratory) in the amount of $148,000. Capital requirements for marine studies at these two campuses are currently under study.

To deal with the issues at Bodega Marine Laboratory, the University Provost has formed a committee to develop specific recommendations about the management of the Laboratory and on the varieties of academic programs to be offered there. The difficulties at the Laboratory arise from the fact that it is outside campus academic structures. The review committee recommended that some reallocation of academic FTEs be made to support a year-round program of instruction at the Laboratory; the practicability of this recommendation will be explored further by the University Provost's committee.

With respect to the issue of ship support for coastal marine studies, the Chancellors at Santa Barbara, Santa Cruz, and San Diego have been asked to look into the matter and to submit recommendations on appropriate actions to be taken by the University which will make maximum use of our existing research fleet and its support facilities.

The Board is satisfied that the observations and recommendations of the review committee which fall outside the areas just discussed are receiving or will receive appropriate attention on the campuses.

Both the review committee and the APPR Board emphasized that the University should continue to give all feasible support to the Scripps Institution of Oceanography, in order that this eminent research unit may be enable to maintain and enhance its position of leadership in marine studies.

Education

Education was selected by the APPR Board as one of the fields to be reviewed University-wide for the following reasons: (1) the changing placement situation in both the numbers of teaching positions available and the preparation required for them; (2) the lack of a systemwide rationale for the University's programs in education and, therefore, of a framework for evaluating current programs and reviewing proposals for new programs; and (3) the continuing discussion in the field about the appropriate balance between professional training and academic research and, in teacher preparation programs, between professional training and subject matter preparation. Because of the scope and complexity of these issues, and the fact that they are of nationwide interest, the Board judged it desirable to have a comprehensive, long-term study of the University's programs in education and related fields.

An academic program review committee has been formed to perform such a study; it is being asked to address the following questions and concerns, though the charge may be refocused somewhat as the work of the committee proceeds:

1. What is the mission of the University of California in the field of education? How is it different from and complementary to that of the California State University and Colleges and comparable private and public institutions in the State and in the nation? Questions concerning the University's mission in education include:

   a) What factors should determine the scope of the University's responsibility for the education of teachers? Surveys indicate that a substantial proportion of undergraduate students in Letters and Science are interested in teaching careers. To what extent should the University respond to student demand by providing teacher training opportunities to them?

b) To what extent should the University provide continuing education for professional teachers, administrators, counselors, research directors and educational specialists?

c) What is the responsibility of the University for scholarly inquiry concerning the educational process and educational problems of society? What criteria are appropriate for assigning some of these responsibilities to schools and departments of education?

d) What is the responsibility of the University for the development of educational research personnel and college and university teachers? What criteria are appropriate for assigning some of these responsibilities to schools and departments of education?

2. What are the specific goals and objectives of individual departments and schools of education? Are these goals and objectives consistent with the University's mission and its standards of quality? How successful have these programs been in meeting their own goals and in attaining University standards of quality? By what criteria is this success measured?

3. How successful has the University's effort in education been from a systemwide perspective? Among the questions to be answered are:

a) Is the distribution of the University's activities in education satisfactory? What factors should determine the function of each campus? Should the current patterns in common coverage and specializations be perpetuated? If not, what changes should occur and how should this be accomplished?

b) How responsive are current programs to changing directions in the field and to new constituencies? What has been the effect on existing programs of changing trends in demand for teachers, administrators and researchers, and how are these developments influencing future plans?

c) How efficiently are the University's resources utilized in programs of education? What criteria can be used to measure efficiency?

4. Are the schools and departments of education properly related to other disciplines and departments? In relation to studies of educational process and problems, to what extent should education faculties conduct research in the academic disciplines? To what extent should schools and departments of education offer professional training also available in other departments, e.g., clinical psychology, child development? In what way should the disciplines be represented on education faculties? Is the specialized knowledge of education faculties about learning theory and teaching process being utilized within the University to the extent that seemingly it should be?

5. Is the degree structure of education programs appropriate? How are the Ed.D and Ph.D differentiated and what different purposes do they respectively serve? How do the M.A. in education, the M.Ed., and the M.A.T. differ and what are their respective purposes? What are the interrelationships of degree and credentialing programs?

Veterinary Medicine

Since at least the early 1960s, there has been pressure from various sources to expand facilities for veterinary medical education in California. There is currently only one School of Veterinary Medicine -- that at Davis, and only 94 students can be accommodated each year. Expansion of this capacity to 128 students per year is planned when Veterinary Medicine Unit II is completed. Furthermore, California residents cannot gain admittance to public veterinary schools in other states, since these schools do not admit students from states that have their own schools of veterinary medicine.

The most recent impetus for expansion of educational opportunities in veterinary medicine for California students came from the 1974 Budget Act of the California Legislature, which called for expansion of enrollment in the basic sciences at the Davis School of Veterinary Medicine and for expansion of enrollments in clinical programs by development of new clinical facilities: (1) in southern California and (2) in a central California area with a high concentration of food animals. The Budget Act asked for a report by January 1, 1975, to include economic analysis, academic planning, and program information required for funding and implementation of this expanded system.

In December, 1974, the University's Veterinary Medical Education Advisory Council, a group chaired by the Chancellor Emeritus of the Davis campus, submitted to the President an interim report addressed to the problem outlined above, and promised a detailed final report about space, facilities, and monies required for the plan by March 1, 1975.

The recommendations of the interim report are as follows:

1. That enrollment in the School of Veterinary Medicine at Davis be expanded to accommodate entering classes of 180 students and that facilities be provided so that these students could complete their four-year curriculum by approximately three academic years at Davis with the remaining time of most of the senior class spent at clinics and elsewhere.

2. That a clinical veterinary medical center be established in southern California to accommodate part of the students in urban and equine medicine specialties and to serve as a referral and extended-learning center for veterinarians in the southern part of the State. The Advisory Council specified criteria for selecting the location for this center, but made no recommendations as to actual site.

3. That a food-animal medical center be established in an area with a high density of livestock to educate students in the food-animal medical specialty and to serve as a referral and extended-learning center for food-animal veterinarians. Again, no specific location is recommended beyond the general area of the Central Valley; however, a number of locational criteria are outlined.

4. That public and private clinical veterinary programs in California be used more effectively in the University's program.

Health Sciences (excluding Veterinary Medicine)

A Strategic Planning Team - Health Sciences, advisory to the APPR Board, has recently been appointed. It has been asked to provide advice and counsel on the following matters:

1. Planning Methodology: How is health sciences planning best carried out over the long-term? By what mechanism? How can interested groups be appropriately involved?

2. Long-Range Planning.

a) Examination of the recommendations in the "Review of 'Planning for the Health Sciences, 1970-80'" in light of the most recent information available on health manpower needs, to determine whether the recommendations are still supportable or whether they should be modified.

b) Consideration of basic policy issues, including:

i. What is likely to be the nature of the health care delivery systems a decade hence?

ii. What is the University's proper role in the delivery of health care services and in the development and operation of health care delivery systems? What should be the sources of payment for health care services essential to the University of California's academic programs in the health sciences?

iii. What, if anything, should the University be doing to help solve problems of maldistribution of health care services, both geographical and by specialty?

iv. Is the University meeting adequately its obligations to provide educational opportunities in the health sciences? For example, is the University providing an appropriate number of entering-class places for health science degree candidates?

v. What long-term changes, if any, should be made in the configuration of the academic programs in the health sciences conducted by the University?

c) Recommendations about the programs required to meet the University's obligations in the health sciences. To what extent should there be diversity of emphasis in these programs within the standards of quality appropriate to the University of California?

3. Short-Range Planning.

a) Realistic appraisal of health sciences programs which could be accommodated if the facilities currently scheduled for funding from the 1972 Bond Issue are completed. Review of these programs to determine priority and possible modification in scope or configuration.

b) Determination of additional new or expanded programs ranked in order of priority. Evaluation of campus proposals submitted recently in response to a request for lists of projects proposed beyond the 1975-80 Capital Improvement Program.

c) Recommendation of changes that would be needed in the scope and balance of the University's health sciences programs if overall budget support for this area were to remain static or be reduced.

Preliminary recommendations of the Team concerning parts of items 2 and 3 are necessary to move forward with the capital program in the health sciences and to make progress in resolving several planning issues related to the availability of teaching hospital facilities. The Team has been asked to submit such recommendations before the hearings on the 1975-76 budget.

Library Policy and its Implementation

A major resource within the University of California is the extensive array of library materials and services available on the nine campuses. Although this resource is developed, in the first instance, to support the University's programs of instruction and research, it also serves many other purposes and many users, including other educational institutions, governmental agencies, business and industry, and the public at large. It is difficult to estimate the magnitude of the University's library services to outside users; we do not have figures on use of the reference services or on in-library use of library materials by non-University agencies or individuals, and such information would be extremely difficult to compile. We do, however, have some indication of the use of University library materials by off-campus borrowers. In 1972-73, almost 19 per cent of library users were from off campus and about 13.5 per cent of total library circulation was to off-campus borrowers.

To insure the most effective use and development of library resources within reasonable constraints on operating and capital expenditures, the library activities of the nine campuses must represent a unified effort by the University to maintain and improve its library support of academic and public service programs. It was noted in the March, 1974, University Academic Plan that President Hitch had appointed a Library Policy Task Force to develop broad policy guidance for confronting the problems of rapidly increasing library costs, severe space problems, the need for improved bibliographic services, and the demand for increased access to the University's library resources. The report of this Task Force was submitted in April, 1974, and reviewed extensively on the campuses. After

consideration of the responses the recommendations of the Task Force for unified library development have been accepted in principle. In summary, they are as follows:

1. The library holdings of all the campuses should be considered as a single University collection.

2. The highest budget and planning priority for establishing the unity of the University collection is the development of full bibliographic access to the collection.

3. Circulation policies and practices will have to be revised to improve physical access to the collection.

4. The University collection should be organized into regional systems.

5. Acquisition rates should be determined, not by physical capacity, but by the academic and research needs of the University's campuses.

In order to make the principles of the task force report operational, a Steering Committee for Library Policy Implementation has been established and recruiting has begun for a newly created position, Executive Director of Universitywide Library Planning. The decisions of the Steering Committee and the Director are subject to final approval by the Vice President - Academic Affairs and Personnel, who chaired the Library Policy Task Force. Many of the members of the Steering Committee also served on the Task Force.

Current Developments and Problems

The University, through the Library Council, the Library Automation Program, and now the Steering Committee is involved in statewide, regional and national cooperative library ventures. New advances in library technology have combined with fiscal stringencies to generate a rapidly changing environment for University Librarians. Decisions made in the next few years will have a momentous impact on the future of the University's libraries, and therefore, on the future of its academic programs. An examination of the feasibility of regional library cooperation among the northern U.C. campuses and Stanford is already underway. Part of that effort includes studying the potential for central storage and dissemination facilities, improved interlibrary loan procedures, and comprehensive computerized holdings and bibliographic information. It is hoped that a successful regional effort in the north will provide a suitable model for regionalization in the south.

Utilizing technologies developed by Stanford (BALLOTS), the Ohio College Library Center, campus automation staffs, and the Universitywide Library Automation Program, efforts to improve bibliographic access to the University's monographs and serials collection are being accelerated. It is planned, for example, that all U.C. campuses will be able to utilize ULAP facilities for the automated production of catalog cards by December, 1975. Additionally, work is progressing on the development of a fully computerized Union Catalog.

Circulation services will be improved in the next 12-18 months through the installation of automated circulation control systems at the Los Angeles and Berkeley campuses. Plans for the expansion of the circulation control system to the other U.C. campuses and for interface with CSUC systems are now being laid.

Many U.C. libraries are overcrowded and understaffed. Much work remains to be done in determining acquisition and staffing levels appropriate to the University's academic programs. Fortunately, progress in matters of access and regionalization should provide a new and better basis for the determination of appropriate acquisition and support levels based on campus and Universitywide requirements. The development of the Campus Academic Plans and the review procedures associated with them provide a significant step forward in enabling the University to assess more accurately its future library needs and to devise the best steps to meet them.

Computer Resources

A systemwide approach to the planning, governance, and management of computing resources in the University of California has evolved from the appointment in October, 1973, of the Computer Policy Board, responsible for recommending computer policy to the President, and the appointment in April, 1974, of the Executive Director of Computing, responsible for planning and implementing policies approved by the President. These appointments followed the recommendations of the Task Force on Computer Policy made to the President in 1973. Formal faculty participation in the planning and governance of computer resources on the systemwide level has been facilitated by the establishment in December, 1974, of an Academic Senate Universitywide Committee on Computer Policy.

A plan is being developed to satisfy the requirements for computer support for the University's planned instructional, research, and administrative activities. In the instructional area, support must be provided for what is expected to be at least a two and one-half fold increase in requirements

for instructional use of computing (from $3 million annually to $7.5 million annually in current dollars) to bring all campuses gradually up at least to recognized minimal national standards, as recommended in the Report of the Academic Council Special Committee on the Educational Aspects of Computers in late 1972. In the research area, it is expected that computing will be applied more extensively not only to research in such traditional areas as the natural and social sciences, but to research in other areas such as the humanities where use has been relatively minor in the past. In the administrative area, support must be provided for the development and implementation of new central and remotely accessible administrative and financial systems and shared data bases. The timing of the plan, as well as the actual level of computing resources to be provided by the plan, depend on the phasing and level of funding available to support the enumerated requirements. Comments have been requested from interested parties throughout the University regarding the details of the plan prior to final Computer Policy Board action.

The plan will be based on the policy that all new large computers in the University, whether replacements or expansions, will be governed and managed as Universitywide facilities. They will, therefore, be available throughout the system to all users on an equal cost and priority basis, independent of the location of the user relative to the facility. The plan will call for the early establishment by merger (during the 1976 fiscal year) of a computing center in the Bay Area to satisfy the immediate joint requirements of the San Francisco campus, the Berkeley campus, and the Information Systems Division, but available, on an equal basis, to users throughout the system. The plan will allow for the later establishment of a complementary center or centers as needs arise which are better served by additional centers. It is expected that each Universitywide center will be a combined instruction, research, and administrative center; but, depending on the actual number of permanent centers, each may be augmented specifically for a particular function such as data base management or interactive computing.

The plan will also call for the immediate implementation of a systemwide data communications network to facilitate the sharing of existing campus-based and new Universitywide facilities. The network will also interconnect with national networks to give access to computers outside the University in other educational and research centers. On the national level, the University is an active member of

the Planning Council on Computing in Education and Research of the Interuniversity Communications Council (EDUCOM) which is intensively investigating the feasibility of implementing a nationwide educational network. Within the University, the Computer Policy Board is also actively pursuing the possibility of establishing broader reciprocal computing arrangements between the ERDA Laboratories and the campuses. In any case, it is expected that the Lawrence Berkeley Laboratory will be on the systemwide data communications network.

The plan will take into account the growing importance of small computers as sources of direct computing power and as intelligent terminals for accessing larger computers. In fact, it is expected that the increased cost-effectiveness of minicomputers during the next five years will enable many requirements, especially those for elementary interactive computing, to be satisfied efficiently by these small computers. In recognition of their increasing importance, Universitywide standards, policies, and procedures are being developed to facilitate the acquisition of small computers, while at the same time maximizing their software compatibility, maintainability, flexibility as terminals and transferability among users.

The growing use of small computers and the communications network will relieve some pressures which would otherwise exist for new large computers. However, as indicated earlier, there are requirements for new data base management systems, as well as requirements for non-elementary interactive computing, which cannot be satisfied with current equipment or small computers. These are the motivating factors for the early establishment of Universitywide centers. Anticipated advances in the computer state-of-the-art within three or four years are expected to make obsolete most of the University's current large computers. At about the same time, the shift to smaller computers will have reduced the larger computer workload to a level possibly requiring only one or two large computers systemwide. This implies a gradual change in the role of campus centers as they are increasingly called upon to provide consulting services for users and act as the focal point for distribution of remote services from the Universitywide centers and outside sources.

Universitywide task forces have been established to proceed with detailed evaluation and planning studies required in the four critical areas of the plan, namely, the implementation of the data communications network; acquisition and

use of small computers; the implementation of the Bay Area center; and the requirements for additional University-wide centers.

Law School Capacity in the University

There is heavy unaccommodated student demand for admission to law schools, and numerous unaccredited schools have grown up in partial response to this demand. This is one of the important arguments put forward by the Santa Barbara campus for establishment of additional legal education facilities of University of California quality. Another is that achievement of appropriate academic balance on the Santa Barbara campus requires the establishment of some additional professional programs. The proposal to establish a School of Law on the Santa Barbara campus is one of long standing. It was formally approved by The Regents in November, 1971, and funding to initiate it was requested in The Regents' Operating Budgets for 1972-73 and 1973-74, but the requests were unsuccessful. An important argument put forward for the denial of funding is that the placement situation for law school graduates has deteriorated substantially since The Regents approved the school at Santa Barbara in 1971. A counter-argument, noted in Section IV of this document, is that law school graduates are qualified by their training for a variety of employment opportunities in addition to traditional legal practice.

Santa Barbara has continued to urge implementation of The Regents' formal approval of its law school, and has included discussion of the law school in its Campus Academic Plan drafts. To resolve this situation for the purposes of the present submission of the Campus Academic Plans, the APPR Board appointed a small subcommittee to prepare a recommendation for handling the Santa Barbara proposal. The subcommittee's recommendations, approved by the Board, are as follows:

1. That in the Academic Plan materials to be submitted to The Regents in March, it be made clear that no funding will be requested in The Regents' budget for 1976-77 to implement the Santa Barbara Law School.

2. That the formal approval of the Santa Barbara School of Law contained in The Regents' provisions pertaining to academic units, affiliated institutions and related activities of the University (appended to Standing Order 110.1) be retained as part of that document.

3. That the Santa Barbara Campus Academic Plan be permitted to mention and discuss the strong campus wish for a law school. However, a statement will be included to the effect that, although it is desired by the campus to fund the school as soon as possible after 1976-77, it is not presently possible to project a definite date.

4. That, in order to prepare for further consideration of actions with respect to the Santa Barbara School, the following actions should be taken:

   a) Review of the current and anticipated student demand for legal education and the job market situation for law graduates as these factors might affect a decision for The Regents' budget.

   b) Consideration of the desirability and feasibility of expanding enrollments in the existing University law schools at Berkeley, Davis, and Los Angeles, and the affiliated Hastings College of the Law. This consideration should explore whether such expansion would have a higher priority than establishing a new law school in Southern California, with attention to comparative costs as one determining factor.

   c) Further analysis of the arguments for establishing a School of Law at Santa Barbara, taking into account the asserted need for campus balance, regional needs for accredited legal education facilities, and other pertinent arguments.

The subcommittee recommended that these steps be completed by the end of 1975, if possible, in fairness to Santa Barbara, whose proposal has been pending for a considerable time. It called attention to several earlier studies that have considered the questions raised, but noted that these are no longer timely with respect to such matters as student demand, job opportunities, outlook for the growth of the University, and the current state of economic conditions.

The Problem of Small Doctoral Programs

A proposal of long standing that presents problems typical of those associated with a number of advanced degree proposals that come to the Steering Committee of the APPR Board for review from time to time is one, still under

consideration, for the establishment of a Ph.D. program in the Classics on the Santa Barbara campus. The questions raised by this and other proposals of its type, at a time when optimum utilization of resources, campuswide, regionally, and systemwide, is an imperative objective, are as follows: What are appropriate criteria for approval of a new, small doctoral program in a field of limited student demand when other doctoral programs in that field already exist in the University? Is it sufficient that the program can be launched without the allocation of additional resources, at least for the foreseeable future, and that the approval of the program will enable University faculty to participate in advanced graduate education? Would the University serve student and faculty interests more effectively by encouraging development of a joint regional doctoral program instead of approving a new program? What are the barriers to the development of such joint programs and how might they be overcome if it is decided that this route is the preferable one? Are there significantly different implications for library acquisitions and access involved in the alternative of a joint doctoral as against several independent ones? Finally, are there any special considerations coming from the fact that the field may be a core discipline essential to the educational program of any university campus (e.g., classics, romance languages) or an optional specialization (e.g., meteorology, nematology)?

To explore these and any other pertinent questions, a special committee was appointed by the APPR Board and asked to complete its assignment by the end of the Winter Quarter, 1975.

V. SUMMARIES OF CAMPUS ACADEMIC PLANS

This section contains a brief "Plan Rationale" for each Campus Academic Plan, prepared by the APPR Board and approved by the Chancellor, and a table listing specific campus proposals for new programs and indicating their review status. (See Section II for detailed descriptions of the table and the review procedures.) Tables do not show programs being reduced in scope or being considered for phasing out.

The Plan Rationale is a succinct statement of campus goals, the assumptions underlying these goals, and future directions. It presents broad enrollment trends pertaining to the size of the campus, the mix of students, and, in some cases, the mix among disciplines. It also indicates the major campus opportunities and challenges and reflects the constraints that have shaped campus goals.

The Campus Plans themselves provide fuller explanations of the reasoning behind enrollment distributions and of the constraints that have operated on the respective Plans. These constraints are a product of many interrelated factors such as: 1) the stage of a campus' development as represented by the size of the campus and its mix of students and programs; 2) the special character of the campus as understood through its organization, program strengths and problems; 3) expectations with respect to resource availability; and 4) responsiveness to such external constraints as demographic factors and pressing social issues.

Campus responses to these constraints, as will be apparent in the Campus Plans, have varied considerably. There are, however, some common responses such as the emphasis on interdisciplinary approaches, the introduction of applied programs at the undergraduate and master's degree levels, expansion of options for undergraduates, socially-oriented research themes, and specific plans for faculty renewal and program review. There is considerable diversity in the development of these common responses on the individual campuses.

Further information about each Campus Academic Plan is contained in the relevant volume for each campus and in Volume II-The Chancellors' Statements, which contains an overview statement prepared by each Chancellor about his Campus Academic Plan.

BERKELEY

PLAN RATIONALE

The stature of the Berkeley campus as one of the great universities in the world reflects the achievement of generations of scholars brought together in an environment that has fostered outstanding scholarship and teaching. In planning for a future in which new or expanded resources will be minimal, and in which growth in faculty numbers will be limited, the campus is giving priority to the maintenance of quality through rigorous and continuing evaluation of all of its programs, and to the maintenance of sufficient flexibility to accommodate the unpredictable demands created by new developments in knowledge. Seeking both continuity and adaptability at all levels, the campus has developed specific operating policies to meet these objectives. These policies include: program review, enrollment planning, space planning, and faculty resource management. Berkeley's program planning flows from these policies.

Graduate education will continue to be a principal concern at Berkeley, and as general-campus enrollment is phased back to 27,000 by 1980-81 the proportion of graduate students will remain relatively constant at about 29% of the total. Expansion of enrollment in professional schools will be balanced by a reduction of enrollments in presently over-extended departments of Letters and Science. At undergraduate level, upper division students will continue to outnumber lower-division students by slightly less than two to one. Although undergraduate education at Berkeley is unusually well adapted to students who plan advanced study, the campus is instituting several changes to improve the experience of those undergraduates for whom a baccalaureate is the intended terminal degree.

Areas for special program initiative in the years covered by this plan are natural resources, energy studies, experimental health sciences, law and society, and public health. These, however, will be pursued within the framework of the campus' more pervasive efforts to strengthen undergraduate education, and to improve the graduate process in all fields.

APPROVAL STATUS OF PROPOSED PROGRAMS
CAMPUS ACADEMIC PLANS - March, 1975
Berkeley Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77 (a) U.C. Review Completed	(1) (b) Status of CPEC Review	(2) Accepted for Planning for 1975-76 or 1976-77 - Still Subject to all reviews and priority decisions	(3) Deferred to 1977-78 or Beyond	(4) Mentioned in Campus Plan
A. UNDERGRADUATE:					
B. GRADUATE (Academic and Professional):					
Joint PhD in Medical Anthro.(with UCSF)	X	Pending			
MA & PhD-Energy & Resources			X		
MS-Engrg. Chemistry			X		
MAT-Nr. Estrn. Studies (with Education)			X		
Concurrent MS & MPH-Nutrition & Pub. Hlth.			X		
C. SCHOOLS OR COLLEGES:					
D. ORGANIZED RESEARCH UNITS:					
East Asian Institute					X
Computer Sci. Institute					X
Energy Rsch Institute					X

DAVIS

PLAN RATIONALE

The Davis Plan shows that the campus will reach its undergraduate goal of 12,100 students in 1975-76, and that growth in subsequent years will be at the graduate level and in the Health Sciences. Graduate academic enrollment will rise from 20 percent of total enrollment in the mid-1970's to 23 percent in the 1980's. The plan indicates that over this time period the emphasis will be on: strengthening and improving undergraduate programs; preserving the balance between undergraduate, graduate, and professional programs; distributing the increase in graduate enrollment and faculty resources to the College of Engineering, the College of Letters and Science, the College of Agricultural and Environmental Sciences, and the proposed School of Administration; increasing the interaction between the Health Sciences programs and General Campus programs; integrating Extended Learning programs with General Campus activities; establishing interdisciplinary graduate groups to plan and administer new graduate programs; and increasing reliance on procedures such as program review and faculty renewal to insure flexibility in the allocation of scarce resources.

APPROVAL STATUS OF PROPOSED PROGRAMS
CAMPUS ACADEMIC PLANS - March, 1975
Davis Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77		(2) Accepted for Planning for 1975-76 or 1976-77 - Still Subject to all reviews and priority decisions	(3) Deferred to 1977-78 or Beyond	(4) Mentioned in Campus Plan
	(a) U.C. Review Completed	(b) Status of CPEC Review			
A. UNDERGRADUATE:					
BS-Native Amer. Studies			X		
BA-Environmental Design			X		
B. GRADUATE (Academic and Professional):					
MS,PhD-Computing Science	X	Complete			
MS-Community Development					X
Ph.D.-Comparative Lit.					X
MS,PhD-Immunology					X
MAdm-Administration					X
MS-Plant Protection & Pest Mgmt.					X
C. SCHOOLS OR COLLEGES:					
Graduate School of Administration				X	
D. ORGANIZED RESEARCH UNITS:					
Gtr. for Consumer Rsch.				X	
Plant Growth Laboratory					X
Institute of Geophysics & Planetary Physics					X

IRVINE

PLAN RATIONALE

The Irvine campus, during its first ten years, has achieved an appropriate balance of academic fields, but because of its size and stage of development, these programs are incomplete. Irvine's plan expresses a continuing concern with strengthening the fundamental disciplines and with responding to increasing student demand. The fundamental disciplines at Irvine are represented by the five Schools of Biological Sciences, Fine Arts, Humanities, Physical Sciences, and Social Sciences. These were developed as creative and interdisciplinary approaches to the traditional fields of Arts, Letters and Sciences. Three Programs -- Comparative Culture, Information and Computer Science, and Social Ecology -- form bridges between those basic disciplines. These Schools and Programs, together with the professional schools of Administration, Engineering, and Medicine, constitute the academic structure of the campus. Continued strengthening of the five basic Schools is essential to the development of Irvine as a campus of the University of California. The campus will respond to increasing enrollments in areas such as Biological Sciences, Engineering, Social Ecology and Social Sciences by means of appropriate resource allocations. It will also be necessary to strengthen those fields, such as Administration and Information and Computer Science, that have not reached an effective size and strength but are necessary to the overall functioning of the campus. Emphasis in Teacher Education will be on specialized credential programs. Proposed new programs will build on existing strengths.

APPROVAL STATUS OF PROPOSED PROGRAMS
CAMPUS ACADEMIC PLANS - March, 1975
Irvine Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77 (a) U.C. Review Completed	(1) (b) Status of CPEC Review	(2) Accepted for Planning for 1975-76 or 1976-77 - Still Subject to all reviews and priority decisions	(3) Deferred to 1977-78 or Beyond	(4) Mentioned in Campus Plan
A. UNDERGRADUATE:					
B. GRADUATE:					
MAT-Comparative Culture	X	Complete			
PhD-Social Ecology			X		
MS-Information and Computer Sciences	X	Reported	X*		
PhD-History and Criticism of the Arts			X		
PhD-Individual PhD Program					X
PhD-Clinical Psychology					X
MAT-History (Extended University)					X
MAT-English (Extended University)					X
MAT-Comparative Literature (Extended Univ.)					X
* Proposed Extension to complementary, professionally-oriented program submitted to CCGA 2/12/75.					
C. SCHOOLS OR COLLEGES:					
D. ORGANIZED RESEARCH UNITS:					
Instit. of Trans. & Traffic Engrg.	X	Reported			
Educ'l. Technology Ctr.					X
Behavioral Biology Ctr.					X

LOS ANGELES

PLAN RATIONALE

The Los Angeles Plan is that of a mature and well-developed campus. Los Angeles has reached its ceiling in enrollments, and the mix of students and distribution of enrollments by field are relatively stable. Some readjustments have occurred in the mix of students resulting in a larger proportion of undergraduates to graduates than had been reported in past plans. Other important features in Los Angeles's future will be growth in interdisciplinary programs in Health Sciences, further integration of the Health Sciences and the General Campus, and the continued encouragement of integrated relationships between Organized Research Units and academic programs.

In short, the overall goals for this planning period are to maintain and strengthen existing programs, provide for growth in new and emerging fields, and maintain resource flexability in a no-growth environment through dynamic faculty renewal plans and a commitment to extensive program review. The resulting flexibility in the use of resources will permit the needed growth in emerging fields and in areas of strong student demand.

APPROVAL STATUS OF PROPOSED PROGRAMS
CAMPUS ACADEMIC PLANS - March, 1975
Los Angeles Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77 (a) U.C. Review Completed	(1) (b) Status of CPEC Review	(2) Accepted for Planning for 1975-76 or 1976-77 - Still Subject to all reviews and priority decisions	(3) Deferred to 1977-78 or Beyond	(4) Mentioned in Campus Plan
A. UNDERGRADUATE:					
B. GRADUATE (Academic and Professional):					
PhD-Library Science					X
PhD-Kinesiology					X
Dr. of Nursing Science					X
MA-Afro-Amer. Studies			X		
MA-Asian-Amer. Studies					X
Engr.-Engineering			X		
PhD-Experimental Pathology			X		
C. SCHOOLS OR COLLEGES:					
D. ORGANIZED RESEARCH UNITS:					
Crump Institute of Engineering Medicine					X

RIVERSIDE

PLAN RATIONALE

The following are the assumptions underlying the Riverside Plan and the expected emphases over the planning period: a) enrollment will remain fairly constant, rising from 5086 in 1973-74 to 5400 in 1981-82; b) there will be no significant change in the mix of students, with the ratio remaining at approximately 75 percent undergraduate and 25 percent graduate; c) the campus ratio of students to faculty will rise to a level that reflects more closely the Universitywide student-faculty ratio; d) the campus' response to a period of slow growth or no growth, and the loss of faculty as it makes the transition into this period, will be through adaptation of its organization to changing needs, intensive review of both graduate and undergraduate programs, encouraging departments to sharpen the focus of their graduate programs, continuing development of imaginative approaches to undergraduate education, and when circumstances warrant it, elimination of programs; e) undergraduate education is identified as the 'first goal' of the campus although the interrelationship of all goals is emphasized; f) what graduate growth takes place is likely to be primarily in the professional schools and in certain disciplines in the natural and agricultural sciences; g) the only new program mentioned is the campus' interest in having the Southern Veterinary Medicine Clinical Facility located at Riverside.

APPROVAL STATUS OF PROPOSED PROGRAMS
CAMPUS ACADEMIC PLANS - March, 1975
Riverside Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77		(2)	(3)	(4)
	(a) U.C. Review Completed	(b) Status of CPEC Review	Accepted for Planning for 1975-76 or 1976-77 - Still Subject to all reviews and priority decisions	Deferred to 1977-78 or Beyond	Mentioned in Campus Plan
A. UNDERGRADUATE: None					
B. GRADUATE (Academic and Professional): None					
C. SCHOOLS OR COLLEGES: None					
D. ORGANIZED RESEARCH UNITS: None					

SAN DIEGO

PLAN RATIONALE

Campus enrollment targets include a total for the General Campus and Health Sciences of 11,900 students, consisting of 8,000 undergraduates, 2,700 graduates and 1,200 professional students. This represents an overall increase of about 40 percent over 1974-75, with major growth at the graduate level. The result will be a General Campus student mix of 25 percent graduates and 75 percent undergraduates, compared to the current 15:85 mix. At the same time the proportion of upper division students will be increased to 60 percent from the present 45 percent of total undergraduates.

An attempt to improve the campus balance in offerings by basic disciplinary areas, during the few remaining years of significant enrollment growth, will cause a shift in the present distribution of faculty. Currently, 44 percent of the faculty are in the Natural Sciences, 27 percent are in the Social Sciences and 29 percent are in the Humanities and Arts. This will change to 40, 30 and 30 percent, respectively. These changes emphasize the Social Sciences as the high priority area in achievement of campus balance.

The campus intends to maintain its existing centers of excellence in undergraduate and graduate instruction and in research in the physical and biological sciences. This includes the development of programs dealing with energy and natural resources, intensification of computer science efforts and collaboration between the biological sciences and medicine. Proposals by the campus for new programs in political science and Hispanic studies are also designed to build, in part, on existing strengths.

APPROVAL STATUS OF PROPOSED PROGRAMS
CAMPUS ACADEMIC PLANS - March, 1975
San Diego Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77 (a) U.C. Review Completed	(1) (b) Status of CPEC Review	(2) Accepted for Planning for 1975-76 or 1976-77 - Still Subject to all reviews and priority decisions	(3) Deferred to 1977-78 or Beyond	(4) Mentioned in Campus Plan
A. UNDERGRADUATE:					
BS-Management Science			X		
BS-Engineering			X		
B. GRADUATE (Academic and Professional):					
MS-Management Science					X
MA-Chinese Studies					X
MA-Classical Studies					X
MAT-Cross Cultural Educ'n.					X
MA-English as a 2nd Lang					X
PhD-Medical Physics					X
MA-Urban & Rural Stdes. (Human Serv. Admin.)					X
PhD-Applied Ocean Sci.					X
PhD-Biochemistry					X
PhD-Biophysics					X
PhD-Hist., Criticism of the Arts					X
PhD-Sci., Technology & Pub. Affairs					X
C. SCHOOLS OR COLLEGES:					
D. ORGANIZED RESEARCH UNITS:					
Ctr. for Developmental Biology	X	Reported			
Ctr. for Iberian & Latin Amer. Studies					X
Ctr. for Policy Studies					X

SAN FRANCISCO

PLAN RATIONALE

The enrollment projections contained in the Campus Academic Plan are consistent with the approved Health Science enrollments (Phase I Health Sciences Bond Program) which indicate a slightly lower rate of enrollment growth at San Francisco than for Health Sciences Universitywide and little change in the distribution of enrollments by field, with the exception of Nursing, which will constitute a slightly smaller share of total enrollments in 1980 than it did in 1973. This difference in distribution will be offset by planned growth taking place in proposed programs in Human Biology. The major directions of the campus are in innovative programs in medical education (San Francisco-Berkeley and San Francisco-Fresno joint programs) and in broadening the scientific base for the education of health professionals to include other related fields beyond the traditional pre-clinical sciences.

APPROVAL STATUS OF PROPOSED PROGRAMS
CAMPUS ACADEMIC PLANS - March, 1975
San Francisco Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77		(2) Accepted for Planning for 1975-76 or 1976-77 - Still Subject to all reviews and priority decisions	(3) Deferred to 1977-78 or Beyond	(4) Mentioned in Campus Plan
	(a) U.C. Review Completed	(b) Status of CPEC Review			
A. UNDERGRADUATE:					
B. GRADUATE (Academic and Professional):					
PhD-Genetics					X
PhD-Medical Anthropology (with UCB)	X	Pending			
PhD-Neurobiology					X
PhD-Human Development					X
C. SCHOOLS OR COLLEGES:					
Human Biology				X	
D. ORGANIZED RESEARCH UNITS:					

SANTA BARBARA

PLAN RATIONALE

The rationale that emerges from review of the Santa Barbara Plan contains the following major elements: (1) Increase in campus size from 12,800 (FTE) to 14,800 students while maintaining the present mix of students (16 percent graduate, 84 percent undergraduate) with corresponding increases in the number of faculty, support and capital facilities. (2) Proposed correction of the imbalance between liberal arts and sciences and professional schools by adding new professional programs. (3) Maintenance and improvement of the campus' programmatic breadth, diversity and flexibility within the existing colleges and schools necessary for the continuous response to changes within academic disciplines and in social and student preference patterns. (4) Addition to the quality and depth of existing programs through the infusion of outstanding faculty talent. This is a central objective of the plan. (5) More intensive concentration of resources in selected areas of campus strength such as marine science. (6) Encouragement of development of certain research themes including marine and coastal-zone studies, health, energy, environmental and societal research. (7) Instructional development emphasizing responses to individual student differences in abilities, interests and concerns (individualization of learning).

APPROVAL STATUS OF PROPOSED PROGRAMS
CAMPUS ACADEMIC PLANS - March, 1975
Santa Barbara Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77 (a) U.C. Review Completed	(1) (b) Status of CPEC Review	(2) Accepted for Planning for 1975-76 or 1976-77 Still Subject to all reviews and priority decisions	(3) Deferred to 1977-78 or Beyond	(4) Mentioned in Campus Plan
A. UNDERGRADUATE:					
B. GRADUATE (Academic and Professional):					
MA-Historic Preservation					X
MA-Geography			X		
MA-Program Eval. Methodology					X
PhD-Classics			X		
Program in Administration			X		
PhD-Geography					X
C. SCHOOLS OR COLLEGES:					
School of Law				X	
D. ORGANIZED RESEARCH UNITS:					

SANTA CRUZ

PLAN RATIONALE

The Santa Cruz Campus is developing Academic Plans under alternative sets of assumptions: 1) a limited growth model of 7,500 students by the mid 1980's; 2) no additional facilities as a result of an emerging State policy of no further expansion of physical capacity for higher education and consequently an uncertain enrollment at some figure near the present 5,600, for which existing facilities are inadequate. Both assumptions reflect the necessity of the campus to adjust its planning effort to the abrupt change from targets of 27,500 in 1965, 10 to 15,000 in 1970, and 7,500 or less in 1975.

If a small margin of further facilities and other resources are provided, the campus can plan to reach steady-state enrollment of 7,500 students, with 10 percent of that total being graduate students. Building on existing disciplinary strengths, the campus will develop several emphases, with special concerns for applications of knowledge: 1) Information Sciences and study, design and operation of complex systems generally, 2) The study of the coastal-zone through programs in Marine Studies, Environmental Studies and Regional Planning, 3) Applied Social Sciences; 4) International Studies, 5) Interdisciplinary programs in the Arts, Letters, and Social Sciences.

The campus will continue to emphasize the collegiate living-learning experience. Selected, high-quality graduate programs, applied programs especially, will be developed in order to maximize the social utility of the campus and as an investment in the quality of faculty. This remaining margin of incremental growth would enable the campus to assure standards of Universitywide quality in curricula, faculty, and supporting facilities.

If further facilities are not provided by the University and State, the campus would face a sudden and unplanned condition of steady-state and the imperative to plan for a major restructuring of its programs, deletion of some existing programs in order to provide resources to develop adequate quality in others, and a review of its enrollment capacity at the existing level of physical resources. Applied programs probably could not be developed.

APPROVAL STATUS OF PROPOSED PROGRAMS.
CAMPUS ACADEMIC PLANS - March, 1975
Santa Cruz Campus

PROPOSED PROGRAMS	(1) Anticipated for Implementation in 1975-76 or 1976-77 (a) U.C. Review Completed	(1) (b) Status of CPEC Review	(2) Accepted for Planning for 1975-76 or 1976-77 - Still Subject to all reviews and priority decisions	(3) Deferred to 1977-78 or Beyond	(4) Mentioned in Campus Plan
A. UNDERGRADUATE:					
BFA-Fine Arts			X		
B. GRADUATE:					
MA/PhD-Theoretical & Applied Sociology					X
MA/PhD-Regional Planning					X
MA in Education					X
MA in Humanities					X
MFA-Fine Arts					X
C. SCHOOLS OR COLLEGES:					
D. ORGANIZED RESEARCH UNITS:					
Coastal Marine Center	X	Pending			
Center for Environmental Studies					X
Applied Social Sciences					X*

* Area under consideration although specific ORU proposal is not mentioned in the Academic Plan.

WORKING PAPER

APPENDIX

Undergraduate Education

I. Introduction

This paper is a description and analysis of the responsibilities of the University of California in undergraduate education and the diverse methods its campuses have designed to meet those responsibilities. It includes a description of the trends that appear in the Campus Academic Plans, a discussion of some issues raised by those trends, and a summary of Universitywide programs in support of undergraduate education.

II. The University's Responsibilities In Undergraduate Education

At the present time, 82,000 undergraduate students are enrolled on the General Campuses of the University of California. They represent 77 percent of the total enrollment and the University is committed to providing a quality education for them.

The University has both formal and informal responsibilities in undergraduate education. First, it is required to admit as freshmen all California residents in the top 12-1/2 percent of their graduating class, if they seek entrance. The University also accepts all qualified California residents who apply to transfer from another institution; transfer students comprise a substantial proportion of the new students accepted each year and consequently the ratio of lower division to upper division students is approximately 40:60, although the pattern varies widely from campus to campus. The University has a responsibility to encourage the enrollment of greater numbers of students from under-represented segments of society, including minorities and women. Because of the need to meet the constraints of space, overall enrollment limits and disciplinary resources, individual campuses may redirect applicants to other campuses of the University.

The University's primary responsibility for undergraduates is academic education, its guiding standard is excellence. Its programs must be of high quality, and it must, as a whole and within each campus, provide sufficient resources and programs to assure students appropriate breadth and depth in their undergraduate programs. The mix and type of undergraduate offerings differ among campuses although all campuses provide balanced programs in the central academic areas. Excellence in undergraduate education also requires constant reassessment and ongoing re-examination of all academic programs.

In meeting this responsibility, the University must be responsive to the diverse expectations and needs of its students. Students require a variety of educational opportunities including liberal arts education, pre-professional and career-oriented programs, and offerings that will assist them in choosing their educational goals. In addition, students often have special needs that necessitate part time study, stop-outs, or accelerated programs. The University must be prepared to provide program and degree options with sufficient flexibility to accommodate these differences.

The University must also ensure effective teaching and equally effective advice and counseling in order to turn excellence in resources into excellence in education. It must provide financial aid so that self-supporting students and students from low-income families can attend the University, and it recognizes the need for non-academic facilities for the convenience and welfare of the student body. Housing, health, and recreational facilities as well as Student or Campus Unions assist in promoting the personal growth of every individual, and each campus offers a variety of extracurricular artistic and intellectual activities.

The University also has a responsibility to society to maintain a faculty, curricula, and an environment that encourages learning and assists students in realizing their intellectual and creative potential. The University must ensure that its students have the opportunity and guidance to become analytical, self-reliant, and responsible people with skills that enable them to contribute to society and assume positions of leadership.

III. Undergraduate Education At UC As Revealed Through The Campus Plans

One of the unique features of the University of California is the range of excellent educational opportunities afforded undergraduates through its eight general campuses. Each campus has its own special characteristics and approaches toward undergraduate education. The experience of students is influenced by those qualities of a campus which tend to shape the campus's environment for undergraduate education: (1) the size and composition of the student body, (2) the location of a campus (north/south, coastal/in-land, urban/suburban), (3) the organization and orientation of academic activities, (4) the proximity to housing and recreational facilities; and, (5) the attractiveness of the campus and its environs. The Plans do not provide sufficient detail about all of the factors that influence undergraduate education to permit a thorough description of the campuses' varied impacts on students or of the variety of educational priorities. However, there is enough information to permit discussion of the variations in size and organizational characteristics of the University's campuses, as well as recent trends and developments in undergraduate education.

A. The Size and Structure of Undergraduate Education at UC.

The table below indicates that the campuses of the University can be grouped into three categories: (1) the largest campuses, consisting of Berkeley and Los Angeles, with between 19,000 and 20,000 undergraduate students, together accounting for almost half of all undergraduate students in the University; (2) middle-sized campuses including Davis and Santa Barbara with 11,000-12,000 students, accounting for 25 percent of all undergraduates; and, (3) the four smallest campuses, Santa Cruz, Riverside, Irvine and San Diego with between 3,600 and 6,300 undergraduate students each, accounting for the remaining 25 percent of undergraduate students.

GENERAL CAMPUS ENROLLMENTS - THREE TERM HEADCOUNT*

1973-74

	No. of Undergraduates	Total Students	Percent of Undergraduates
Berkeley	20,405	28,666	71.2
Los Angeles	19,251	26,896	71.6
Riverside	3,840	5,086	75.5
Davis	11,292	14,030	80.5
Santa Barbara	10,121	11,989	84.4
San Diego	5,991	7,061	84.8
Irvine	6,267	7,338	85.4
Santa Cruz	4,739	5,031	94.2
UC TOTAL	81,906	106,097	77.2

*President's Official Enrollment Projections, December 1974.

Five of the eight general campuses (Berkeley, Los Angeles, Davis, Santa Barbara and Riverside) have the traditional structure of departments functioning within a division and/or college, with the latter bearing responsibility for the preparation of lower division students for entrance into a departmental major. Within this structure flexibility is provided by giving students a choice of ways to pursue their degrees. In addition to departmental majors, students can choose among a number of interdepartmental majors, group majors focusing on special topics, intercollege majors in broad fields such as liberal arts or social science, or individual majors designed by the student with the approval of a faculty committee.

The remaining three campuses, Irvine, San Diego, and Santa Cruz, can be distinguished by their educational philosophies and organizational structures. They all have comprehensive interdisciplinary units that were designed to respond directly to the needs and interests of students and faculty and to avoid the narrower focus of traditional disciplinary organizations. Irvine, in regrouping traditional disciplines, developed interdisciplinary schools and programs. San Diego has thematic colleges, each of which provides a balanced liberal arts and science curriculum. It also has a strong, well-developed departmental structure. Santa Cruz was established to promote a sense of community among students and faculty and to encourage cooperation among the disciplines. Its organization consists of relatively small, residential colleges and disciplinary Boards of Studies. Each faculty member holds appointments in both a college and a cross-campus disciplinary Board of Study.

B. Specific Approaches And Trends In Undergraduate Education.

It is clear from the Campus Academic Plans that a number of major developments are occurring in undergraduate education. All of the Plans indicate movement away from required courses and general requirements toward more choice for students. Some campuses have begun offering exploratory courses for lower division students to introduce them to a broad range of disciplines and to encourage them to investigate areas that might otherwise have been ignored. But rather than requiring students to acquire breadth, the emphasis is on attracting and motivating students through interesting approaches.

Davis has developed an Integrated Studies program which introduces students to a variety of disciplines by exploring a common theme or historical period. It emphasizes close student/faculty contact in the classroom and the residence hall, and can involve as much as 22 units during the freshman year.

Los Angeles has an even more extensive but still experimental Lower Division Program which consists of a two-year sequence of six integrated courses designed to be taken one each quarter and each worth 12 credits. It introduces students to a variety of disciplines by focusing on a theme such as "freedom and control" or "the origins of life."

Berkeley has begun this year an intensive investigative research program for lower division students, known as the Strawberry Creek College. Freshmen enrolled in it take one 10-unit seminar each quarter, exploring the historical roots of problems such as "the entrepreneurial way of life in the United States," "technological culture," or "the formation of male and female roles in western civilization." Sophomores may take 5, 10, or 15 units of such seminars per quarter.

The problem of designing educational programs appropriate to the first two years of undergraduate education is a subject addressed by all campuses. It is part of a larger, national concern about the purposes of undergraduate education. The programs being developed within the University of California appear to provide some interesting alternatives to the traditional formats.

The Campus Academic Plans also indicate an important trend toward interdisciplinary approaches. Every campus is increasing its flexibility in developing new courses and majors that cross traditional disciplinary boundaries. For example, Berkeley's planned interdisciplinary undergraduate offerings are to be associated with graduate group programs. In addition, the number of individual majors is rising and there is a small but growing trend toward educating and training people for interdependency and change. Los

Angeles's Creative Problem Solving Curriculum, for example, teaches an approach to creating and evaluating change that is necessarily interdisciplinary in its tools and applications. It is an integrated set of courses designed to help undergraduates appreciate and evaluate contemporary opportunities and problems - e.g., complexity, uncertainty, rapid change, organization, risk, resource limitations, human need, and technology - to introduce students to the science and art of problem solving and decision making.

New methods for offering courses to non-majors are also being created. Some campuses or units offer traditional survey courses; others design courses for specialized constituencies (e.g., humanities courses for biological sciences majors) or provide special sections of courses for students with different interests; still others are [illegible]ing more specialized upper division courses that can be open to all students without prerequisites.

However, one problem in this increase in opportunities must be faced. For students to use these changes well, they require good information and sound advice to find their way through the increasingly complex sets of offerings. Advising and counseling services are consequently taking on a new importance. Most campuses and units have recognized this need and are beginning to rethink old systems, but coordinated information and evaluation efforts on and between campuses will be essential in the near future.

The significance of differences in class size, the usefulness of large or small classes, the educationally desirable mix of class sizes are issues that remain unresolved in the Plans. Experiences on some campuses suggest that class size may not bear as important a relation to quality of education as has been thought in the past. Los Angeles's experiments with the size of classes in different disciplines have not produced conclusive results though they do indicate that the quality of teaching and subject matter have an impact on the importance of class size as a determinant of quality in education.

Among the most important considerations affecting undergraduate education are the different emphases faculty place on research, graduate education and teaching. The University's commitment to research and to the premise that instruction and research are integral [illegible] the educational experience at the University is well known, as the emphasis on research is frequently thought to have adverse affects on teaching. The Plans describe policies and practices that have been developed to reemphasize the importance of teaching, including both recent increases in funding to foster and reward improvements in undergraduate education, and attention to the University's policy of having teaching performance an important consideration in promotion and tenure decisions.

Efforts to improve undergraduate teaching, especially by better means of evaluation, have generated interest on each campus. Sharing of information about the projects and activities developed on different campuses should help each campus determine what methods are best for its own configuration and purposes and should, in addition, generate more concern for the quality of undergraduate education. As projects developed with these funds become permanent, the University will have to ensure their funding on each campus on a continuing basis.

A number of innovative developments are also emphasized in the Plans. In addition to the regular introduction of new courses and new majors, special programs are becoming more common. Intensive courses are offered on most campuses; for example Irvine offers a one-quarter, total-immersion course in ecology. Freshman seminars have been an important development on some campuses, offering entering students close contact with faculty and opportunities for depth in exploring a topic in a style that traditionally has been reserved for upper division and graduate work. Field studies and practical experience are being incorporated into more majors where they are appropriate. And technological innovations (self-paced instruction, computer-aided instruction, videotape, language laboratories, simulation) are playing an increasingly important role, allowing professors more time for contact with students and increasing the flexibility of each student's education.

Special arrangements for meeting student needs are also becoming more frequent. More undergraduate students are becoming involved in advanced research, jointly with graduate students and faculty. More campuses are sharing resources -- libraries, computers and courses. The timing needs of individual students are being met by more part-time programs and special programs for those who want accelerated degrees. Berkeley is considering offering an eight week session in the summer to provide remedial and preparatory instruction for freshman and transfer students. And, where there is special demand for instruction in areas not covered by regular faculty, temporary and part-time faculty appointments provide an extremely useful flexibility.

IV. Issues

A number of issues related to undergraduate education are being addressed in the planning process. Some issues are on-going and some are specific to present conditions. The topics listed below continue to be the principal areas where policy may need to be reconsidered or formulated.

1. Class size - Of the many factors influencing the quality and effectiveness of an educational program, class size is thought by many to be particularly important. Under what circumstances is this the case? What are desirable combinations of class size

for students with different backgrounds, objectives, and subject interests? What is the effect of size on student and faculty motivation? It is clear that increases in enrollment without increases in resources produce a tendency toward standardization within courses. Lectures become more frequent, less attention is paid to an individual student's needs and expectations within a course, and tests become more standardized. What relationship, if any, does this have to increased competitiveness among students?

2. Advising and Counseling - Academic advising is becoming increasingly important because of the growing complexity of the University. How can faculty best be persuaded and prepared to do it? What kinds of advising should faculty do and what should be left to professional staff or students? Career counseling is another kind of guidance essential for undergraduates. How can it best be done? What can we learn by studying academic and career advising techniques across campuses?

3. The Value of Technological Aids to Education - Over the past decade a wide variety of technological innovations have been tried on each of the UC campuses (self-paced instruction, computer-aided instruction, videotape, language laboratories, simulation), and yet we know little about their effects. Which technological aids of this kind are beneficial and which are not? Under what conditions does each work best? Do they increase or decrease faculty-student contact? What are the effects on students and faculty of eliminating the possibility of spontaneous interaction by automating instruction?

4. Grading Systems - The University offers a wide variety of grading systems which range from entirely pass-fail grading with written evaluations of students in the case of Santa Cruz to entirely standard A to F grades. Of the systems that exist, are some more conducive to undergraduate education, or to some types of undergraduate education, then others?

5. Administrative Demands on Faculty and Student Time - Faculty participation in administration and in the faculty governance system seem to be an important element in the environment of undergraduate education. We need to understand how these responsibilities affect the time that is allotted to course preparation, advising, informal contact with students, and research, and we also need to know how or whether undergraduate education benefits from the faculty's involvement in administrative activities.

6. Teaching Improvement - How can we provide and evaluate incentives for teaching improvement, reward creative teaching in more meaningful ways, and continue to seek an increasingly satisfactory relationship between research and teaching?

7. Teaching Assistants - Objections are often raised about the use of teaching assistants in undergraduate courses because of the TA's inexperience, lack of depth in the subject matter, and the attendant reduction of faculty contact. At the same time TAs are needed for teaching and it is imperative that graduate students who will be professors have directed practical experience in teaching. Thus we need to know what the best ways are to educate teaching assistants and employ them advantageously. How should such education differ by discipline? Can incentives be provided for quality TA education programs?

8. Financial Aid - Federal and State reductions in aid as well as increasing inflation have greatly reduced the University's ability to provide access to students who need financial assistance. Solutions to this problem will be essential if the University is to fulfill its mission to admit students according to their educational qualifications rather than their ability to pay.

V. University Programs in Support of Undergraduate Education

There are three specific Universitywide programs that currently support efforts to improve undergraduate education:

- Innovative Projects in University Instruction.
- The Regent's Undergraduate Instruction Improvement Fund.
- The State's Special Fund for Undergraduate Teaching Excellence.

The first two funds together received $1 million in support in 1973-74 and again in 1974-75. In 1974-75 of the $1 million, $400,000 was allocated to Innovative Projects in University Instruction and $600,000 to The Regent's Undergraduate Instruction Improvement Fund. Of the latter about one quarter has been allocated to general campuses for orientation, training and evaluation of TAs. Another quarter will be used for the following multicampus projects (campus participants). 1) diversifying self-instructional learning materials for entering medical students (San Francisco, Irvine and San Diego); 2) grant to Riverside for preparing multi-purpose materials for urban and regional studies (Riverside, Santa Barbara, Los Angeles and San Diego), 3) instructional improvement in Biology (Berkeley, Davis, Santa Barbara and Santa Cruz); 4) learning modules for beginning physics classes (Irvine, Santa Barbara, Riverside and Santa Cruz), 5) systematic entomology (Berkeley, Davis and Riverside). The remaining $300,000 has been allocated to campuses for undergraduate instructional improvement projects administered by the campuses.

The State's Special Fund ($1 million) emphasized the following categories of programs in 1973-74 and again in 1974-75: 1) evaluation of the quality and effectiveness of teaching, and related programs for

improvement of teaching; 2) summer instructional grants for the improvement of courses, curricula and instruction; 3) seminars or other types of special courses for entering students, both freshman and transfers with advanced standing. These projects have been evaluated in the report Towards Excellence in Teaching, Too prepared by an evaluative research team under the chairmanship of Professor James C. Stone (October 1974). A second such report is being prepared covering the 74-75 experience.

A President's Advisory Committee on Instructional Improvements Programs was appointed in February 1974 to coordinate the use of these various funds and to get effective faculty and student advice concerning the University's general efforts in improving undergraduate instruction. One of its functions is to see that ideas are communicated from one campus to another and to stimulate constructive interest in improving undergraduate education. In this regard, it is building a computerized data base which gives faculty access to information about all of the instructional improvement projects which have been funded under these various funds.

It should be noted, however, that current practices in parceling out total resources available for instructional improvement, and the appropriate role of Universitywide officers and committees in this process, are matters of great concern at the campus level at the present time. Discussions will be undertaken with a view toward resolving this concern.

THE UNIVERSITY OF CALIFORNIA ACADEMIC PLAN

PHASE II: THE CAMPUS ACADEMIC PLANS

MARCH 1975

VOLUME II: THE CHANCELLORS' STATEMENTS

THE UNIVERSITY OF CALIFORNIA ACADEMIC PLAN

PHASE II: THE CAMPUS ACADEMIC PLANS

MARCH 1975

VOLUME II: THE CHANCELLORS' STATEMENTS

TABLE OF CONTENTS

	Page
Berkeley	1
Davis	13
Irvine	25
Los Angeles	35
Riverside	44
San Diego	55
San Francisco	63
Santa Barbara	69
Santa Cruz	78

BERKELEY

CHANCELLOR ALBERT H. BOWKER

Through the efforts of generations of California citizens--and their commitment to academic excellence--Berkeley has become one of the small handful of the world's principal centers of scholarship. Its high standing in the academic world is something in which the University as a whole, and the people of the State, may take pride. Berkeley acknowledges its responsibility to try to maintain its academic standing as it plans for the future.

It is not possible to specify with any precision the elements that have enabled Berkeley to achieve its recognition, or the conditions that make a great university. Its quality and character are the intangible products of the interaction between particular and unusual talents and a particular milieu, and a particular time, giving rise to a particular intellectual climate, and a particular body of attitudes and standards concerning the advancement of knowledge. Their sustenance and perpetuation depends on the continuity of that climate, and of the standards and attitudes it comprises, and on its continuing attractiveness to people of like talent and interest down the years.

In the years to come, Berkeley's chief responsibility is to ensure that its climate is not stifled, but is nurtured in ways that will provide a learning environment that encourages the natural, evolutionary process that occurs when faculty and students together seek new knowledge. To this end, the campus will continue to strive for the highest standards of quality in instruction, research and public service. It is expected that the faculty will sustain these standards and will set them for their students. The campus will continue to seek the ablest students, both by selection, through entrance requirements, and by positive search. Thus, Berkeley's objective is continuous intensive development on the part of the faculty, aimed at securing qualitative improvement in the content and process of education at all levels of instruction, and at maintaining its effectiveness as a center of scholarship.

Berkeley's planning can do little directly to ensure the attainment of this objective. It can serve it, however, in charting the broad educational directions Berkeley will follow in the years immediately ahead, and in enunciating policies and priorities that will guide its development and the disposition of its resources. This is the purpose of this document.

It might, in some sense, be termed a plan not to plan. It is purposefully designed to keep open the programmatic options of the campus.

Berkeley's programmatic structure is comprehensive, well-established and proven. New disciplines develop slowly out of new knowledge, or through the interaction of existing bodies of knowledge. Thus it is unlikely that many new disciplines will be established during the period the Plan encompasses, or that the configuration of Berkeley's programs will undergo major change. This is not to say that all of Berkeley's present programs will continue to exist, or to exist in their current structure. The ongoing process of review and self-assessment that is an integral part of Berkeley's planning will lead to changes in some disciplines, and to the discontinuation of programs that fail to sustain the rigorous academic standards set by the faculty that cease to meet an evident educational need. By the same token, if it is impossible to make plans for the development of knowledge, it is possible to plan the resource flexibility required to accommodate it as it occurs. This, also, is an integral part of Berkeley's planning. The maintenance of flexibility and adaptability, as the necessary condition of program quality, is the capstone and focal point of Berkeley's planning process.

Hence, although this document constitutes a strategy for redirecting Berkeley's academic efforts in directions appropriate to the educational conditions of the latter 1970's, this is more a matter of marginal adjustment, through the evolutionary adaption of existing programs, than of the creation of new academic units or new forms of academic organization. Berkeley's plan therefore avoids radical departures in favor of a measured, pragmatic adaptation to developing educational trends as these are perceived at this time. It continues the policies initiated in 1971-72 of progressively expanding and restructuring the programs of its professional schools and colleges, particularly at undergraduate level, with a view to providing more career-related options to students (but without reducing the coverage and strength of its arts and science programs). As presently projected, the planned distribution of its enrollment responsibilities and teaching resources is detailed by School, College, disciplinary area, and academic unit in volumes VI, VII, and VIII of the Academic Plan. These encompass a moderate shift in the emphasis of the campus' educational effort between the humanities and social sciences on the one hand and the sciences, technologies and professions on the other

hand. As part of this shift, they provide for the development, and enlargement of recently initiated programs in natural resource studies, energy studies, Pacific Basin economic studies and health science training. In the period covered by the plan the following major initiatives will exert a significant influence on the evolution of Berkeley's academic agenda:

1. Natural Resource Studies: This represents a re-grouping and re-structuring of the programs of instruction and research of the former College of Agricultural Sciences and the School of Forestry within a new College of Natural Resources. It provides a broad grounding in the scientific and professional activities associated with the development and management of natural resources.

2. Energy Studies: This multi-disciplinary graduate group major program forms a programmatic nucleus for the development of coordinated efforts encompassing all aspects of the generation and utilization of energy. Its initial thrust is in the graduate area, drawing on all relevant disciplinary fields of specialisms, with a future view toward the natural evolvement of broad-gauge undergraduate programs.

3. Health Sciences: This series of experimental programs is designed to: (a) utilize Berkeley's scientific faculties on behalf of health science training, (b) emphasize those areas of primary care for which training is presently inadequate, and (c) do this in cooperation with local community health care institutions, obviating the need to construct such facilities on campus.

4. Law and Society: This is a new interdisciplinary-based group program designed to replace the former programs in criminology with a more scholarly and professional exploration of issues in the theory and practice of jurisprudence and criminal justice.

5. Public Health: This is a new undergraduate major in Public Health planned for initiation in 1975-76 to combine a broad grounding in behavioral science with a structured introduction to the issues and requirements of this field.

These several initiatives are being pursued within the framework of Berkeley's more pervasive efforts to strengthen undergraduate education, and to improve its graduate process in all fields. Like those of other major universities, the quality of Berkeley's undergraduate programs has been a

matter of debate for upwards of a decade. Critics, whose concern has been for the totality of the undergraduate experience, have generally charged that the subject matter structure and orientation of Berkeley's programs render them unresponsive to educational issues of broad connotation, and inhospitable to innovations in the modes of instruction. Since evidence indicated that the preponderant majority of Berkeley's students are satisfied with these programs, this may be a misinterpretation of their nature and purpose.

Because of their association with its graduate programs, Berkeley's undergraduate programs demand a high degree of academic commitment from students, and appreciable independence and initiative in the pursuit of their academic objectives. Thus, although they are well suited to the needs of students whose academic objectives are clear, or who plan to go on to graduate work, they may accord less well with the needs of students whose academic objectives are uncertain, or who are seeking a general education.

In recognition of this problem, the campus is instituting several changes aimed at improving the experience of those undergraduates who do not intend to further their education beyond the baccalaureate degree. In some cases these involve appreciable modification of requirements, but without diminution of the standards of academic achievement demanded of students that are important to the quality of campus programs.

Several components of this effort include:

1. The development of new major programs is being encouraged throughout the campus. Those centered in the professional schools will combine a broad grounding in the arts and sciences with a structured introduction to professional activity. Those centered in the arts and science programs will combine disciplinary studies with appropriate work experience and/or field studies.

2. The introduction (or re-introduction) of undergraduate programs is being stimulated in those professional schools whose present mission is exclusively graduate. In some instances, these will be service or elective offerings. In others they will be new types of professional undergraduate major programs. Similarly, those professional schools and colleges now offering undergraduate programs are being urged to develop courses and programs designed specifically for non-specialist students.

3. The development of undergraduate programs in association with graduate group programs is also being encouraged. The curricula of such programs will originage for the work of the group and will emphasize the integrative aspects of its interdisciplinary approaches.

To s pplement this effort, and to meet the problem of inadequate pre-University preparation, a preparatory (or threshold) summer term of eight weeks will be initiated (as resources permit) to provide freshman and transfer students who have been newly admitted in the immediately ensuing Fall term with an opportunity: (i) to take such preparatory course work as may be necessary to prepare them for regular degree studies (for students with academic deficiencies this would include required remedial courses, e.g., Subject A and major prerequisites), (ii) to receive intensive advising and orientation aimed at assisting them to clarify their academic objectives (this should be organized in 'cluster' format under the mentorship of appropriate members of the regular faculty), and (iii) to begin their regular courses under optimal conditions.

Berkeley's plan is also designed to facilitate the expansion of the present program of student 'clustering' in the regular term whereby new students are placed under the mentorship of appropriate regular faculty members with a view to assisting them to maximize their educational opportunities at Berkeley.

In contrast to the conflicting views that are voiced concerning the quality of undergraduate education at Berkeley, there is widespread acknowledgement that Berkeley's graduate programs are effective. Their subject matter is constantly new and changing. Their requirements are rigorous. Their form of organization and their pedagogical procedures offer appreciable flexibility to students in following current lines of inquiry or professional interest both within and across established fields. They are thus the most dynamic and adaptive components of Berkeley's instructional effort.

Because of their dynamism and contemporaneity, they perform two important educational functions: (a) They provide the society with a continuous flow of professional manpower attuned to the evolutionary currents in their field of proficiency, and equipped to play a strategic and progressive role in its development. (b) Because they occupy the sector of intellectual activity in which research and teaching merge, they constitute the initial forum in which scholarly findings and conclusions are subjected to the discipline of

pedagogical presentation, and hence they provide a vehicle whereby undergraduate curricula at Berkeley, and elsewhere, are updated progressively in accordance with the results of ongoing scholarship.

Yet under present economic conditions it is clearly important that graduate students be able to proceed expeditiously to their degree objectives and that degree programs be structured in such a way as to protect their career prospects. Substantial progress has been made during the past five years in increasing student persistence and in shortening the time to the degree in most programs by more rigorous selection and in-progress screening of students and by re-structuring of requirements. The plan contemplates that these efforts will be continued. It also proposes that doctoral programs be modified to accommodate a Master's degree as a prerequisite for advancement to candidacy in order to reinforce screening procedures and to provide a marketable measure of academic attainment for students terminating at that stage.

In contradistinction to the developing campuses, Berkeley's critical areas of concern are of a broad, general nature affecting the campus as a whole---and affecting one department as they affect the next. They stem from the age of the campus, the rapid, uncontrolled expansion of the forties and sixties, and excessive student demand that continues at all levels of admission, and the fixed state of the campus budget.

They mainly involve: (a) a slower than normal rate of turnover in regular faculty ranks, (b) an imbalance between the distribution of student enrollments and the distribution of faculty resources, (c) a high proportion of departments of greatest distinction affected by the contracting Ph.D. market, (d) a high proportion of regular faculty in the 50 to 60 age range, and (e) an inability to add new resources when faculty emphases change or when student enrollments shift.

Thus, Berkeley's 1974 plan enunciates policies that have been framed with a view toward meeting the need for both continuity and adaptability at all levels, taking account of the unique problems that confront the campus. They are the basis of Berkeley's plan not to plan, but to keep open the programmatic options of the campus. The specific operating policies designed to meet these objectives include: the Faculty Renewal Plan (with its necessary component, the Faculty Budget Plan), Enrollment Planning, Program Review, and Space Planning.

Faculty Renewal Plan

The Faculty Renewal Plan was born of necessity. In 1971, when it was developed, Berkeley's average tenure proportion was 78%; only about fifteen to twenty retirements per year for the entire campus were projected for the ensuing ten-year period; turnover was declining in the new, slower employment market; and campus flexibility had been virtually eliminated by a reduction of 110 FTE positions in Berkeley's faculty budget (almost 40% of its uncommitted faculty resources at that time).

The adaptability of Berkeley's programs is dependent on the continuing vitality of its ladder faculty. It was therefore imperative to formulate a plan that would enable the campus to insure that new appointments in regular ranks not exceed the number of separations from these ranks down the years---in other words, a plan that would effect the maximum turnover in ladder ranks while holding Berkeley's faculty resources in a steady state.

Berkeley's faculty renewal plan insures the achievement of this objective. It enables the campus to project target figures for new regular rank appointments---for both assistant professors at entry level, and associate and full professors at tenure level---(a) without changing its historic policy of promoting to tenure ranks all non-tenured appointees who perform to Berkeley standards in teaching, research and public service, and (b) without adding to its aggregate faculty resource commitments down the years. It thus regulates the dynamics of Berkeley's academic personnel system (including its age and rank distribution) in order to permit the continuing addition of new young ladder faculty, and the reallocation of faculty resources in accordance with programmatic goals--but without changing its nature and values.

Enrollment Planning

The uncontrolled expansion of the 1960's created appreciable discrepancies in the distribution of departmental enrollment responsibilities, thus impairing the educational effectiveness of many academic units. In response to this condition, the Revised Academic Plan, 1969-75, recommended a policy of controlling admission to the Schools, Colleges and disciplines in order to obtain an optimal balance between student enrollments and faculty talents, and hence to improve teaching conditions.

This policy of admissions control has had considerable success, but has progressed more slowly than had been planned, owing to continuous shifts in student demand that have complicated the process of increasing enrollments in underutilized areas in order to decrease enrollments in overextended areas. A proper balance in student enrollments has therefore still to be achieved.

The matter of enrollment balance goes beyond the problems of distribution among the various disciplines. It also extends (a) to the distribution between the size of the undergraduate population and the size of the graduate population, and (b) within this latter body, to the number of master-level students as opposed to the number of doctoral students, since faculty requirements differ among the various levels of students. The picture is further complicated at Berkeley because of the large number of academic and professional schools and colleges that offer, within the same department, curricula leading to a professional degree, alongside programs structured toward the achievement of an academic degree.

Given Berkeley's responsibilities as a center of scholarship, it is essential for the longer-run that each of its graduate programs enroll the number of students of requisite quality that is optimal in light of its capabilities and the requirements of the area of study. Graduate targets will therefore be reconsidered in detail in the course of a further in-depth review of program goals and capacities that is scheduled for the ensuing planning cycle. In this process, the issue of faculty utilization will be balances against such considerations as the caliber of student demand and program standards.

At the undergraduate level, Berkeley is concerned with its responsibility to provide access to all qualified freshmen while leaving open enough spaces at the junior level for those students who wish to transfer to Berkeley after two years of lower division work elsewhere. Analysis of enrollment policies in this area has led to a reduction of lower division enrollments in order to improve the quality of lower division studies at Berkeley based on the considerations (a) that freshman students tend uniformly to seek enrollment in a narrow range of courses in the basic disciplines, (b) that at recent levels of freshman intake, enrollment demand has exceeded the capacity of these courses by an appreciable amount, and (c) that the consequences have been a dilution of the quality of instruction owing to overcrowding

and understaffing, and a dislocation of the study programs of numerous students owing to their inability to take such courses in proper sequence. Present policy aims at long-run lower division population of just under 6,500 in general campus programs and an upper division population of about 12,500.

This policy has assisted the campus in meeting its affirmative action responsibilities by providing greater access to the University for those juniors whose educational or economic disadvantages have obliged them to begin their higher education at a two-year college.

Program Review

In order to accomplish Berkeley's academic objectives, the academic units must continuously update their educational programs, pursue new directions in inquiry and learning, and initiate new forms of academic reorganization as may be necessary to facilitate such developments. This requires a continuing process of critical evaluation both of the campus and of its academic components. Traditionally, at Berkeley, this latter function has been vested in the faculty under authorization of the Standing Order of The Regents. Recognition of this has led a number of committees of the Academic Senate to undertake, as a formal charge, the responsbility to review established, as well as newly proposed, courses, graduate degree programs, educational policy and academic plans. The administration and students are now also involved in this process. Students sit on most major review agencies of the Senate, as well as the major administrative review committees. The role of the Berkeley administration in review process is mainly coordinative.

Recent reviews have resulted in the following changes:

-- a consolidation and reorganization of the program in Computer Sciences through the merger of two overlapping departments;
-- the disestablishment of the Departments of Design and of Demography;
-- the establishment of a College of Natural Resources;
-- the implementation of a number of experimental programs in health sciences aimed at serving the growing population of pre-medical students not accepted to medical schools each year, and at filling important gaps in contemporary health science training at both professional and pre-professional levels;
-- the initiation of studies aimed at sharpening and

expanding efforts in the fields of Energy and Applied Social Science.

Space Planning

Berkeley is the oldest and largest of the eight general campuses of the University. More than 25% of its useable square footage is about fifty years old or older. Thus, it has many space problems unique to the system. The rapid growth of the 1960's and discrepancies in departmental space assignments, have been exacerbated by the fact that new buildings are necessarily constructed to the requirements of particular units or fields. As a consequence, a situation of serious maldistribution presently exists. During the ensuing planning cycle, the campus will attempt to develop plans and policies designed to secure a reallocation and revitalization in the use of space to ensure that academic developments determined in accordance with academic priorities, are not impeded by space restrictions.

A State-supported University must be responsive to the dynamics of changing societal circumstances and to the educational needs arising therefrom. It must also preserve a capability for re-directing its efforts in new directions, and for maintaining its viability, particularly during times of economic stress. The development of plans and planning processes, and the establishment of linkages between plans and operating policies such as those just cited are intended to achieve this objective. Together they are intended to sustain and reaffirm the basic principles to which Berkeley is committed.

It must be stressed, however, that the Academic Plan document in which they are detailed represents the efforts of the Berkeley administration in writing a first draft of an academic plan to guide the campus over the next few years. It has not undergone any formal review by the faculty, the Senate, the students, or the ASUC. On a campus of this size and of this complexity, it is impossible to develop a comprehensive document, subject it to thorough review by the faculty and students, resolve issues, and revise it to reflect a unified position, within a period of less than one year. In all likelihood, this process will require several years, as the submission of this document clearly marks the initiation rather than the culmination of the current planning and review cycle. However, the document, whenever it is completed, will be widely circulated, and only then will it become our operating document.

This first draft is intended to serve as a tool for the consultation process and to stimulate discussion within the campus community. After completion of this review process, it may well be that the present document will be revised drastically. However, we are confident in respect to a number of the value judgments stated in this first draft as they represent the historical judgments of this campus. Similarly, we expect that some of these judgments which have historically represented the thinking of the campus will be modified or changed as the values of faculty and students continue to reflect the changing attitudes of our society.

This first cycle of the University Planning Process is useful to the campus in two respects: (i) as a means of stimulating exchange of ideas broadly among faculty, students, and the administration as to Berkeley's mission and objectives and (ii) as a means of formulating a regular, formal and continuous process for reviewing campus plans and modifications to those plans.

DAVIS

CHANCELLOR JAMES H. MEYER

Introduction

This academic plan for the University of California, Davis is a revision of the plan submitted to The Regents in 1972. Its purpose is to summarize the academic objectives of the Davis Campus, to explain present plans for achieving these objectives, and to establish guidelines for future campus development. It is the result of a planning process that has involved faculty, students, staff, and administration.

General Goals

The primary objective of the Davis Campus is to achieve distinction in the time-honored functions of a university--the pursuit of truth and fundamental knowledge, the education of students in the arts and sciences and in the professions, the dissemination of new knowledge, the encouragement of intellectual and aesthetic excellence, and service to the citizens of the State and the nation. The campus is committed to a planning philosophy that will encourage openness, responsiveness, and orderliness in the face of constant pressures for change. The campus intends to maintain a reasonable balance in its educational programs even as it enters a new stage of institutional development marked by slower growth and stabilization. Strength in mission-oriented activities will continue to be matched by strength in the fundamental disciplines. Excellent graduate and professional programs will be linked to strong undergraduate offerings. The campus academic plan is based on the fundamental assumption that academic programs at all levels of the University--graduate, undergraduate, and professional--reinforce and strengthen each other.

The campus is committed to the encouragement of learning, to the development of the capacity for independent study, and to the creation of an environment that will enhance the intellectual and personal development of its students.

Campus Organization and Structure

The campus is organized into six colleges and schools--the College of Agricultural and Environmental Sciences, the College of Letters and Science, the College of Engineering, the School of Veterinary Medicine, the School of Medicine, and the School of Law--and four divisions--the Graduate Division, the Division of Extended Learning, the Division of Biological Sciences, and the Division of Environmental Studies--each of which is headed by a Dean. There are 98 academic departments or equivalent units. The Davis Division of the Academic Senate has delegated authority over educational policy and the campuswide administration has delegated authority over the budget.

Campus Characteristics

The Davis Campus is located in the Central Valley about 15 miles west of Sacramento. It includes 3,700 acres of land. Not the least of its attractions is its environment, which is a composite of several qualities. The design of the campus conveys an open, uncrowded feeling. There are fertile, productive orchards and fields nearby. The small town atmosphere obviously offers a desirable alternative to the urban culture from which most of the students come. The style of the campus is correspondingly open, accessible, and friendly. Approximately 90 per cent of the students live on campus or within the City of Davis. Only a small percentage are commuters. Because the students identify strongly with the campus, this produces a substantial need for well-organized recreational, residential, and cultural programs on campus.

Planning for Steady-State Enrollment

In the next five to ten years, perhaps the most difficult planning problem at Davis will be to anticipate the problems of steady-state enrollment and adjust to an era of little or no growth. The general campus will reach its planned undergraduate enrollment ceilings by 1975-76, and the graduate and health science enrollments will be at maximum by the middle of the 1980s. The main problems

are how to plan for program and budget flexibility, how to provide for internal reallocation of resources in the face of fixed total enrollments on the campus but shifting enrollments in specific programs, and how to sustain the intellectual vitality of the faculty when new faculty positions are no longer generated by growth.

After more than a decade of rapid expansion, a sharp change in planning assumptions, though unavoidable, will not be automatic; it must be achieved through careful and thorough consultation with the faculty to insure that hard priority decisions are made on the basis of sound academic values and appropriate information. Such a procedure is being developed.

Each Dean will maintain a pool of temporary academic positions and support to respond to short-term variations larger than can be accommodated solely by departments. The Chancellor will maintain a resource pool of academic positions (resulting from deaths and retirements each year), support funds, and physical space (not yet permanently allocated) for making permanent additions to existing programs or for initiating new programs within the context of the Academic Plan.

As presently planned, the enrollment at Davis in 1983-84 will be 17,800 students, including 12,100 undergraduates, 3,500 graduates, and 2,200 students in the health sciences. Lower division students are expected to comprise 35 per cent of undergraduate enrollment and upper division students 65 per cent.

The campus plans to maintain a growth rate of between 500 and 1,000 students per year until 1975-76. This rate of growth will be reduced to approximately 200 students per year beginning in 1976-77, after undergraduate enrollments reach planned maximum levels. For the rest of the decade, enrollments will increase only at the graduate level and in the health sciences. By 1983-84 graduate enrollment is expected to be approximately 22 per cent of the general campus total.

Undergraduate Education

The Davis Campus plans to offer complete, high quality undergraduate teaching programs in all of the commonly recognized core instructional areas in the humanities, arts, social sciences, and natural sciences. In addition, the Davis Campus plans to continue and improve its specialized teaching programs in agricultural and environmental sciences. Davis is the major agricultural campus of the University. Its College of Agricultural and Environmental Sciences is one of the leading colleges of its kind in the world. While moving systematically toward maturity as a general campus, Davis intends to remain the major center in California for university level teaching and research in the agricultural and environmental sciences.

The campus plans to increase its efforts to accommodate students who intend to pursue a rigorous liberal arts education in which vocational or career goals are secondary to general education objectives. Such an education can be, in the best sense, both intellectually demanding and personally enriching. In an era of renewed student interest in vocational or pre-professional education, plans for general education on the Davis campus will be nurtured.

The campus must also develop new methods of meeting the needs of pre-professional students in the health sciences and the pre-law fields. The Advising Services program, including health sciences and pre-law advising, provides special counselling for pre-professional students. The Work-Learn Program assists all interested students in obtaining practical educational experiences (e.g., internships) outside the classroom and in exploring career opportunities. It will expand as necessary to serve the needs of students seeking experiential leaning.

Graduate Education

Graduate education and the scholarship fundamental to graduate teaching are primarily what distinguishes the

University from other segments of post-secondary education. The Davis Campus plans to maintain and strengthen its graduate programs, not only for the sake of balance and diversity, but also because they are basic to the very definition of a university. Evaluating established Ph.D. programs, allocating resources for graduate instruction and research, and developing new flexibility in graduate curricula will be matters of the highest priority on the Davis Campus. Because the addition of faculty and other resources will be limited for the indefinite future, not all academic disciplines and professional curricula can be expected to develop fully. The objective of campus planning is to define those programs and areas of emphasis in which high quality now exists or can be attained, and to assure their continued development.

The Davis Campus already has great strength in faculty and facilities in the biological and agricultural sciences and is rapidly developing strength in the health sciences. In biology and its applications to agriculture, medicine, and veterinary medicine, the goal of the campus is to achieve a complete range of graduate programs; in each program all major fields of specialization will be developed. New doctoral programs in immunology and in animal behavior are now being planned and will be developed.

While there will be greater breadth of graduate programs in biology than in other fields at Davis, the campus plans to continue its doctoral programs in the disciplines and specialties that are essential to a general campus. The emphasis will be on quality in all aspects of graduate education, in both large and small programs. In the future, the Davis Campus will develop new graduate specialties in the physical sciences, mathematics, humanities, and social sciences in which high quality can realistically be attained, which will supplement other offerings on this campus, and which will complement programs on other campuses. New resources generated by growth at the graduate level through 1983-84 will permit the Davis Campus to support these developments.

Professional Schools

There are four professional schools at Davis: Veterinary Medicine, Medicine, Law, and Engineering. The School of Veterinary Medicine, the oldest and most renowned of our professional programs, will expand its class size to 128 if Veterinary Medicine Unit II is completed by 1977. The entering class in the School of Medicine will also be 128 by 1977 if Medical Sciences Unit I is finished on schedule and the necessary clinical facilities are provided; the Medical School will continue to build strength in its primary care programs. The School of Law, already at maximum class size, will round out its faculty and teaching program with particular emphasis on the development of small group and individualized instruction. The College of Engineering, now nearing planned enrollment ceilings at the undergraduate level, will emphasize the development of its graduate programs.

The general planning goal for professional education on the Davis Campus is to assure that each program offers high quality professional instruction that meets the needs of students and the State of California. Our expectation is that each professional program will continue to develop in the future, as in the past, largely according to plan. The campus expects to develop additional programs in the health sciences, particularly in the allied health fields. A proposed School of Administration will be established after 1976.

Scholarship and Research

Scholarship, the process of learning or acquiring knowledge by systematic study, is a primary goal of the Davis Campus. Independent scholars pursuing their own research at the departmental level, closely associated with the instructional program, will continue to be the backbone of research in the basic disciplines. Organized research units (ORU's) will continue to facilitate advanced research, especially in the applied fields. The largest ORU on campus is the Davis branch of the Agricultural Experiment Station (AES), which conducts both basic and

applied research directed toward the management of natural resources, the production, processing, and marketing of food and fiber, the quality of life in families and communities, and the problems of environmental quality. The program of the Kearney Foundation of Soil Science augments the AES program. Other ORU's at Davis are: the Crocker Nuclear Laboratory, the Institute of Ecology, the California Primate Research Center, the Institute for Governmental Affairs, the Radiobiology Laboratory, and the Food Protection and Toxicology Center.

The Davis Campus expects to develop three new ORU's in the near future. A Center for Consumer Research has been proposed as an ORU within the AES. A Plant Growth Laboratory within the AES is under consideration. The campus is also considering establishment of a local branch of the Universitywide Institute of Geophysics and Planetary Physics.

Libraries

The Davis Campus is committed to the concept that an excellent library is the cornerstone of quality educational programs, both in teaching and research. It is committed also to the planning assumption that library development must be based on the needs of academic programs.

The Davis library is an excellent multiple-purpose collection of about one million volumes, designed to serve the immediate teaching and research needs of the campus. For historical reasons, its holdings are particularly strong in the agricultural and biological sciences. Smaller but generally good collections have been developed in the humanities and arts, social sciences, physical sciences, mathematics, and engineering. Reliance is placed on the libraries at Berkeley and UCLA and other large research libraries for little used materials in fields not emphasized at Davis.

Library plans call for continued expansion as campus academic programs expand. The campus is, however, vitally

interested in regional library planning and has entered actively into such planning with the Berkeley and Santa Cruz Campuses. We look forward to the development of a mutually acceptable regional plan serving the needs of all the northern campuses and which would perhaps include Stanford University and certain northern campuses of the California State University and College System. Informal discussions of means of cooperation have been initiated with California State University, Chico, California State University, Sacramento, and the University of the Pacific.

Special Campus Concerns

Since 1960, the Davis Campus has developed largely according to plan and has become a diversified, general campus. As it approaches planned maturity, the campus has the following special planning concerns:

(1) Concentration of Students in the Biological Sciences

The Davis Campus has great strength in the Biological Sciences and plans to maintain this strength. For the past several years, however, more and more students have chosen to study biology. This has produced, especially at the undergraduate level, urgent problems of overly large classes, heavy academic advising loads, and shortage of space. Therefore, the campus intends to stabilize enrollments in the Biological Sciences at approximately the levels of 1974-75. This is necessary to preserve the balance among the various fields and disciplines and to prevent overconcentration of students in the Biological Sciences. In the future, the Davis Campus projects a small decline in undergraduate enrollments in biology; a modest growth at the graduate level is expected. The shift, though relatively small, takes on considerable importance in terms of the future balance of the campus.

(2) Proposed School of Administration

The Davis Campus academic plan anticipates the establishment of a School of Administration sometime after 1976. This is, from the campus viewpoint, a crucial proposal. Once established, the school would bring to fruition long-held plans for such a professional program at Davis. The proposed school would offer a core program in administration in the first year and would encourage specialization in the second year. It would serve the needs of a considerable number of students in the Sacramento area and would add additional scope and balance to our professional offerings at Davis. While the proposed school remains temporarily on the drawing boards, plans are proceeding for a graduate group in administration which would offer a masters program. In the meantime, cooperation with the Riverside Campus will continue, through the Division of Extended Learning, by which the Riverside Masters degree is made available to part-time students at Davis.

(3) Health Sciences

Complex problems must be solved to assure the future development of the Health Sciences at Davis. Both the School of Veterinary Medicine and the School of Medicine will require new teaching and research facilities if they are to increase class size as planned. Improved clinical research and patient care facilities must be provided at the Sacramento Medical Center. The recruitment of first-rate faculty must continue if high academic standards are to be maintained and programmatic maturity attained in the School of Medicine. Costs will be high, but there are no alternatives.

(4) Teaching Excellence

The Davis Campus, which has a long tradition of teaching excellence, is enjoying an unprecedented surge of interest in teaching. In 1973-74, the Fund for Undergraduate Teaching Excellence provided funds for the establishment of a new Teaching Resources Center to work with faculty and Teaching Assistants, on an entirely voluntary basis, in the solution of particular teaching problems, to sponsor workshops on teaching, and to stimulate interest in and knowledge of a variety of teaching methods. Plans call for the Teaching Resources Center to be funded permanently and expanded modestly, if warranted by faculty use and approval. The Davis Campus also plans to increase its capacity to respond to faculty requests for assistance in the use of media in instructional programs. In the last three or four years, we have witnessed a great increase in the use of instructional television, audio-visual materials, and computers in regular courses at Davis. Imaginative use of teaching technology has enriched many courses. Better production work could be done if the proposed new instructional services facility is approved. Planning studies are also underway to establish guidelines for cooperation between the Instructional Media Office and the Library in the acquisition, cataloguing, storage, and circulation of media materials.

(5) Focus on Graduate Programs

It seems clear that the Davis Campus must emphasize planning at the graduate level in the next five years. Strong graduate programs must be maintained in order to sustain the scholarship and disciplinary research that undergirds a full-fledged university and which will be required to solve complex problems such as lagging world-wide food production, environmental deterioration,

and energy shortages. If state and national policies do not encourage graduate studies and resources diminish, the Davis Campus plans to compensate as much as possible by internal budgetary adjustments and special planning efforts so that our graduate programs will remain strong.

(6) Library Policy

The importance of the library to the success of the teaching and research programs of the Davis Campus can hardly be overstated. An excellent library is indispensable to the achievement and preservation of academic excellence. Acquisition rates must be maintained and adequate library space provided in the future. One of our current problems, in fact, is a shortage of library space. From the Davis Campus viewpoint, it is urgent that library planning, both at the campus level and in the northern region, should proceed with all possible speed.

IRVINE

CHANCELLOR DANIEL G. ALDRICH, JR.

The Mission, Nature, and Educational Philosophy of the Irvine Campus

The character of the University of California, Irvine, is determined by the desire to attain excellence in research and scholarly and creative activity, to disseminate the resultant knowledge to the larger community, to educate undergraduates effectively so that they may assume responsible professional and social roles, to train graduate students as committed and effective scholars, and to provide research expertise and humanistic understanding of the problems in the society which supports the University. As a specific mission, Irvine is concerned with meeting the needs of newly-developing urban areas of Southern California, particularly Orange County, for university education and for research expertise which may be applied to regional and national social issues.

At the end of its first decade, Irvine is a developing general campus which provides its undergraduate students with a sense of intellectual discipline, as well as a considerable breadth of knowledge. We believe that the student should have recognizable intellectual ground to stand on for the rest of his or her list. UCI is also a research oriented campus which encourages the participation of undergraduate as well as graduate students in the research and creative activities of the faculty. Finally, it is a developing campus which has yet to attain that critical mass of students and faculty necessary to its general goals, but which is acquiring a national reputation for its creative organization and programs and for its record of excellence.

This record of excellence achieved during Irvine's initial growth phase, is a substantial one. Many programs are of nationally and internationally recognized quality. The potential for excellence exists in others. Our goal is the eventual development of the highest quality wherever the potential exists. Irvine's record of excellence has been established within the constraints of limited funding. The next steps in Irvine's progress as a distinguished general campus require the deployment of further resources, especially in selected areas.

Present Programs and Developmental Strategies

The Irvine campus was planned from the beginning as a general campus. The establishment of five Schools representing five fundamental areas of knowledge was and is the foundation of

this model. The five fundamental Schools are Biological Sciences, Fine Arts, Humanities, Physical Sciences, and Social Sciences. Areas of knowledge which cross these major school boundaries are represented by Departments or Programs, grouped together under the Council of Interschool Curricula. Included in this grouping are the Program in Social Ecology, which bridges interests in the Social and Biological Sciences; the Program in Comparative Culture, crossing disciplines in the Humanities and Social Sciences; and the Department of Information and Computer Science, which crosses all major disciplinary boundaries. In addition to the basic Schools and the associated cross-disciplinary Programs and Departments, there are three Schools with a primarily professional orientation: Administration, Engineering, and Medicine. The remaining academic units consists of the office of Teacher Education and the Department of Physical Education.

The organization of major academic units into Schools rather than into Colleges distinguishes Irvine from other campuses of the University. It must be emphasized that although the Schools represent basic areas of knowledge, in most cases they are not traditionally structured. Owing to this, interdisciplinary programs within Schools are common, and faculty within Schools represent multi-disciplinary interests. All of this results in certain highly desirable attributes. First, the School structure promotes the development of unified and coherent programmatic and administrative policy which is necessary to sound academic planning and development. Second, this structuring promotes programmatic and organizational flexibility which permits expansion into areas of concentration in order to meet new and changing student needs, and allows effective readjustments in the event of decreased student demand. Third, the Schools encourage the development of undergraduate curricula of sufficient breadth and excellence so that students receive an education which is in-depth in one basic area of knowledge and also broad enough to be a general education. Fourth, the Schools tend to recruit faculty members whose research parallels areas of curricular concern, thereby creating unifying research themes which, in their turn, contribute importantly to undergraduate education. Finally, through their interdisciplinary organization and flexibility, the Schools generate subject areas which crosscut their disciplinary boundaries, giving rise to the creation of smaller, independent programs which meet new demands while serving as links between the larger and more mature units.

Irvine is characterized by its emphasis on the participation of both undergraduate and graduate students in research and creative activity. In addition, Irvine has provided extensive opportunities for small or reasonably-sized lecture and discussion classes, and for seminars, independent study, and field work for undergraduates. Larger classes are utilized when appropriate or necessary, and are usually accompanied by discussion sections or laboratories. Although few classes are taught exclusively by self-paced instructional methods, many classes incorporate some computer usage. Irvine also encourages student participation in seminars and colloquia presented by distinguished visiting scholars.

The School of Biological Sciences, rather than organizing its faculty groupings and curricula around the traditional divisions of the living world--plants, animals, and microbes--has recognized from the outset the need to foster thematic approaches to biological problems which may be common to many forms of living organisms. The structure of the School into Departments of Molecular Biology and Biochemistry, Psychobiology, Developmental and Cell Biology, and Population and Environmental Biology allows this cross-disciplinary focus to find expression in areas of concentration at the graduate level and in cooperative research endeavors by the faculty. all of these programmatic foci are also presented at the undergraduate level, where only a single degree in Biological Sciences is offered.

The School of Biological Sciences is an academic unit on the Irvine campus with excellent potential for growth both at the undergraduate and graduate levels. This potential is related to the desire of undergraduates to major in Biological Sciences and to the growing reputation of the faculty and the graduate program. At the undergraduate level, two new tracks toward the B.S. degree are being developed in areas with high student interest and suitable faculty resources: Behavioral Biology and Environmental Biology. At the graduate level, new concentrations in Medical Microbiology and Animal Physiology are being developed jointly by the School and the College of Medicine.

The unifying and unique characteristic of the School of Fine Arts is the emphasis on professional commitment and performance in all areas of artistic expression. This conservatory approach to the Fine Arts is illustrated by the fact that many of the faculty are themselves distinguished professional artists and serve as artists-in-residence to the students. With the addition of Fine Arts II, and an increase in the

faculty in Fine Arts, the School will be able to continue its emphasis on professional programs for majors and will at the same time greatly expand its offerings for non-majors. In addition, a new concentration within the B.A. which will emphasize the emerging arts of television and film is being developed. The proposed new Ph.D. in the History, Theory and Criticism of the Arts, offered in conjunction with the School of Humanities, will be the only program of its kind in the country and will combine creative approaches to the arts with more traditonal scholarly approaches. It will provide a unique graduate experience for future scholar/artists which will help to break down the traditional barrier between performance and scholarship in the arts.

The School of Humanities is distinguished by its emphasis on an awareness of the distinct perspectives which its various disciplines bring to humanistic study. The School is organized into departments, but interaction across the various disciplines is strongly encouraged. Degrees are offered in Classics, Classical Civilization, Comparative Literature, English, French, German, History, Humanities, Linguistics, Philosophy, Russian, and Spanish. Two of these, Humanities and Linguistics, are interdisciplinary, and are offered through the cooperation of faculty drawn from several departments. A number of areas in the School are extremely strong in terms of educational programs and quality of the faculty. Most increases in enrollments in the Humanities in the near future are likely to be through participation of non-majors in its programs. Because the subjects it covers are fundamental to basic learning, the School plays a crucial role in the education of all students on the campus. Growth in the size of the faculty will be determined mainly by considerations of workload.

In the School of Physical Sciences the disciplines of Chemistry, Mathematics, and Physics exist as separate academic entities, as they do in most universities in the country. Departments in each of these fundamental disciplines provide intensive training for their own majors; undergraduate participation in research is a prominent characteristic of the undergraduate programs. In addition, the departments provide important service courses which teach the fundamentals of the physical sciences to students majoring in Biological Sciences, as well as other programs. This function is particularly important since Chemistry, Mathematics, and Physics provide the foundation of the technology that dominates contemporary civilization and supports, to an ever-increasing extent, the new developments in the biological sciences.

Both enrollments and workloads in the School are increasing. The School is noted for the quality of its faculty and their research achievements.

The School of Social Sciences unites scholars from the disciplines of Anthropology, Economics, Geography, Political Science, Psychology, and Sociology. The School is a continuing experiment in interdisciplinary studies and organizational structure. It has no formal departments, but rather encourges the formation and re-formation of groups as the interests they represent develop among the faculty and students. At the present time, the faculty of the School is evaluating this loosely-structured organization to determine how to maintain its flexibility, while identifying and structuring several working teams of faculty. Enrollments in the School are increasing, and the trend is expected to continue because of increased interest on the part of both undergraduate and graduate students in the social sciences.

In addition to the five fundamental Schools, there are three professional Schools, all of which are involved to some extent in undergraduate education, as well as in professional graduate education.

The Graduate School of Administration is unique in its recognition of the commonality of the educational needs for business, public, and educational administration. Although its primary focus is graduate professional education, it does offer some courses for undergraduates. It is planned that these course offerings will be doubled over the next five years because of student demand in the area of Administration. The Graduate School of Administration has excellent potential for growth at the graduate level. Its programs are vigorous and demanding, and produce individuals with professional administrative leadership ability. The reputation of the School is becoming firmly established as a result of the quality of its faculty and programs, the high quality of its graduates, and its close and productive relationship with business organizations in the community, particularly in connection with the UCI Executive Program and the Administrative Internship Program.

The School of Engineering is now in an exciting phase of revitalization. This redevelopment is due partly to increased student interest in Engineering, and partly to the efforts of the new Dean to restructure and redefine the missions of the School. Areas of concentration for undergraduates which are responsive to societal needs are being developed in

conjunction with other Schools. These are the Environmental Management program, offered in cooperation with Social Sciences and Biological Sciences, and the program leading to a combined B.S. in Engineering and an M.S. in Administration, offered in conjunction with the Graduate School of Administration.

The College of Medicine maintains a strong emphasis on research and medical education, including primary care training, and is thoroughly involved with the other academic units on campus. The involvement of the College in educational activities on the general campus includes joint ventures with the School of Biological Sciences, the Office of Teacher Education, the Department of Physics, the School of Engineering, the Program in Social Ecology, and the Graduate School of Administration.

The three academic units which cross the disciplinary boundaries of the eight major Schools are the Program in Comparative Culture, the Department of Information and Computer Science, and the Program in Social Ecology.

The Program in Social Ecology is unique in its stress on the integration of a variety of disciplinary emphases and the focus of these on the issues of urban life. The emphases within the program are community mental health, criminal justice, environmental quality and health, human development, environmental psychology, human ecology, law and society, and planning and public policy as applied to these areas. The Program in Social Ecology combines ecological theory in relation to community organization and interaction with the methodologies and concerns of social science. Over the past few years, the Program has grown rapidly in size and scope in response to student demand. Even if student demand for the program remains at its present level, the program will remain a vital and valuable part of the Irvine campus.

The Program in Comparative Culture is, in common with the School of Engineering, under new leadership. The new Director of the Program is at the present time evaluating the present and future focus of this program. The program bridges interests derived from the Schools of Humanities and Social Sciences in its focus on the expressive forms and social inquiry as they relate to American cultures and their antecedents. It is strongest at the graduate level where students from these disciplines can go on to study truly comparative approaches to culture. Expanded enrollments are expected at

the graduate level, particularly since the M.A.T. has been approved.

The Department of Information and Computer Science is concerned in the broad sense with the intellectual and technological implications of computers for society. This program has links to many other academic units through joint faculty appointments and research concerns. Expansion is likely to occur in this program at both undergraduate and graduate levels, particularly if the proposed M.S. is approved.

A number of mechanisms are employed on the Irvine campus to insure that quality and plans for the attainment of excellence are constantly reviewed and evaluated. These mechanisms involve the review and evaluation of undergraduate and graduate programs, the review of the teaching effectiveness of individual instructors, rigorous peer review of faculty research and creative activities, and review of the role of the campus in relation to the community. Reviews of instructional programs include a consideration of the subject-matter areas by campus personnel and by personnel from other campuses or universities, as well as by professional accrediting agencies. The Academic Senate is involved in these reviews.

Irvine has developed plans whereby excellence can be maintained in the future after critical mass has been achieved and when the rate of growth of the faculty will be reduced. In order that the faculty as a whole will remain at the forefront of educators and researchers, it is planned that future ladder rank appointments will be made in the ratio of 20% to senior tenured ranks and 80% to nontenured ranks, thus allowing continued faculty turnover in the years ahead. Second, sabbatical leaves will be judiciously used to foster the continued scholarly growth of the faculty. Third, a pool of FTE will be reserved to permit the appointment of truly outstanding faculty, and to provide a buffer zone of temporary faculty in areas which experience short-term enrollment increases.

Irvine has a serious commitment to public service. It views itself as playing a research and service role in the urban community analogous to that of the land-grant college in an earlier agrarian community. Academic programs having special public service responsibilities include Special Programs designed to offer educational opportunities to individuals who desire access to higher education through part-time study, the Executive Program of the Graduate School of Administration.

which offers opportunities for continuing education to executives and administrators; Summer Sessions, which offer additional educational opportunities to regular and special students; the Program in Comparative Culture and the Office of Teacher Education, which cooperatively sponsor the multicultural and bilingual Project Escuelita and the Teacher Corps; the School of Biological Sciences, through its Educational Motivation Program; and the Graduate School of Administration and the Program in Social Ecology, which sponsor intern and field experiences in community organizations. University Extension engages in public service both through its programs in continuing education and its cooperation with local research groups regarding social issues of importance to local communities. The Public Policy Research Organization contributes the findings of its research directly to state and local organizations. On another level, the Speaker's Bureau makes faculty expertise available to the general community.

Concluding Remarks

The picture which emerges from this overview of current programs and future trends is that Irvine has potential for growth in all of its programs and can expect an increase in the number of students who wish to enroll. This increase is expected because of Irvine's growing reputation and because of the projected increases in the numbers of high school graduates in Orange and San Diego counties. There will be some shifts in the percentages of majors enrolled in the various programs, but these are natural variations in the patterns of student interests. The basic unit with the greatest potential for growth at the undergraduate level is the School of Biological Sciences. At the graduate level, the Graduate School of Administration is identified as the unit with the greatest growth potential.

Althouth UCI clearly has the potential for growth, the physical facilities at present are unable to accommodate further enrollments. The campus has reached and exceeded its plant capacity and will be unable to accommodate an overall increase in students until the new Lecture Hall (scheduled for occupancy in 1977-78), Fine Arts II (scheduled for 1970-80), and Biological Sciences II are built. Growth in Biological Sciences is hindered by the need to provide additional laboratory and instructional space, faculty laboratory space, and dollar resources. Even maintaining enrollments in the Biological Sciences at their present level will require the addition of an Organic Chemistry Laboratory. Growth in

Social Ecology, Information and Computer Science, and Engineering is hindered by the fact that a considerable portion of the Engineering Building is occupied by the School of Biological Sciences, a situation which will not be alleviated until Biological Sciences II is built.

The Irvine campus is also severely handicapped at this time by the fact that there is a serious gap between the level of permanent I&R support cost budget and the amount of I&R support funding necessary to operate its academic programs each year. This shortage, which exists for historical reasons, now approaches 20% of the total I&R support budget.

Because of the size, age, and stage of development of the campus, there are no academic programs at this time that should be phased out. There are no redundant programs and no "luxury" programs. The campus has reached a significant level of excellence, and plans to develop in such a way as to attain the generalized strength of which it it capable. This requires only that there be realistic support in regard to facilities and funding. In general, new program development will be deferred until this goal has been accomplished. Where new programs are introduced they will build on existing strengths.

LOS ANGELES

CHANCELLOR CHARLES E. YOUNG

UCLA's last academic plan was produced and presented to The Regents in 1967, at a time when the campus was still growing and when resources, from both State and extramural sources, were clearly adequate by today's standards. The plan called for some overall growth with substantial increases in graduate programs and a largely compensating reduction in the level of undergraduate enrollments.

The years since the approval of that plan have brought many changes. The growth in graduate enrollments did not occur. Thus, we did not carry out planned reductions at the undergraduate level. Accompanying these changes in enrollments have been changes in the level of funding of the operating and capital outlay budgets by the State as well as increasing uncertainty regarding the level of Federal funding. Furthermore, student interests have shifted substantially among various academic and professional disciplines, requiring appropriate response to diminish serious dislocations in resource allocation and utilization.

For all of these reasons and more, a re-examination of our academic plan was clearly required. Moreover, it has been necessary to conduct that re-examination in a new context -- that of stability in enrollments and resources, although certainly not in program development or quality. With the exception of the health sciences, UCLA will experience no further enrollment increases on a campus-wide basis in the foreseeable future. Only in the how severely overcrowded College of Fine Arts and in some areas of the still-growing health sciences, will there be significant expansion of our academic physical facilities. And, unless a successful effort is made to improve upon the allowed student/faculty ratios, there will be little increase in the number of faculty throughout the General Campus.

Planning in this new era will require attention not only to the challenges of numerical stability but to other phenomena as well, such as part-time and extended university programs, the possibility of collective bargaining for the faculty, and the demands placed upon us all by the State's executive and legislative branches for a more coordinated planning effort.

Meeting these challenges while preserving our central academic mission in a dynamic scholarly and societal environment will require greater attention to individual program review and resource flexibility. For example, plans for faculty renewal have been developed to insure both that the ranks of our faculty are continually replenished with new members and that individual members of the faculty have opportunities for personal development and renewal. Through programmatic review we will be continually assessing the quality and currency of our programs to eliminate or reduce those which are no longer central to our mission while insuring the maintenance and quality of those which are. New procedures are being instituted to achieve better coordination of planning and budgeting for the campus.

Within the broad context of this need for institutional renewal and responsiveness, our present academic plan describes the programmatic development of each department, school, and college and of a variety of related and supporting

programs. The draft has already undergone revision based on two campus-wide reviews since its initial development in 1972-73 and individual units are encouraged to suggest revisions whenever appropriate as their programs change and develop. This is in keeping with our view of our academic plan as a living document that must be updated continually to reflect the day-to-day changes of a dynamic environment.

Planning and Budgeting Process

During the past year, the campus administration has been working closely with deans and with the Academic Senate to develop a coordinated planning and budgeting process for UCLA. The process which has emerged has been designed to integrate currently existing procedures with a number of new elements in a way that will be responsive both to campus planning needs and to requirements of the Office of the President. Key features of the process include the development of resource and priority statements by deans and academic vice chancellors as the base for each year's target budget request, annual review and updating of the campus academic plan, and an executive review at the close of each academic year to enable participants to re-evaluate their plans based on the past year's experience.

Regular review of the instructional program is insured by a coordinated self-review process conducted by the Academic Senate. In this process, each department and interdepartmental program undergoes extensive review about once every six years. Faculty and student members of the departments under review each year participate closely in the process. The results of the review with the evaluations and recommendations of the Academic Senate are made available to department chairmen and deans for their planning and to the administration for campus-wide planning. Additional ad hoc reviews of departments or programs may be initiated at any time by either the Academic Senate or the administration as the need arises.

Program Development

UCLA is the largest and most comprehensive of the University's nine campuses. Our General Campus includes seven professional schools, a broad range of academic disciplines in the College of Letters and Science, and a College of Fine Arts. Also at UCLA are academic and professional programs in the Health Sciences including Medicine, Nursing, Dentistry, and Public Health. All of these programs are supported by extensive teaching, research and library facilities. An outstanding example is our teaching hospital which has been judged one of the best hospitals in the nation by the American Medical Association. Campus-wide planning takes into account not only the specific plans of each unit, but also a number of campus-wide concerns and objectives -- always within the context and constraints of steady state enrollments and resources.

The fulfillment of UCLA's overall goals requires that a locus of core academic disciplines be maintained at the highest possible level of achievement, or where not yet accomplished, that they be brought to levels of excellence.

Our highest priorities will center on these core academic disciplines which will certainly include the basic natural sciences of physics, mathematics, chemistry, biology, and psychology; the basic social sciences of economics, sociology, anthropology, history, and political science; and such humanities as English, philosophy, classics, linguistics, fine arts, and at least some of the foreign languages. Strength in these core disciplines at both the undergraduate and graduate levels provides indispensible support to our graduate professional programs and to the full spectrum of our academic endeavors.

Programmatic growth in the future will be largely evolutionary and transformational rather than additive. We will continually seek to re-examine our academic programs to determine how well they are meeting student demand and the needs of society as well as to evaluate their responsiveness to current thinking and scholarly development of the discipline. Future priorities will be based primarily on the continued development of existing programs while still permitting indispensible growth of the educational enterprise into newly emerging fields, many of which are expected to be interdisciplinary in character.

Programmatic development will also be affected by student demand. The most immediate and visible reflection of that demand is in the distribution of enrollments each year as students select their majors from among the wide number available on the campus. We have not sought to restrict enrollments by major at the undergraduate level except in areas such as the Fine Arts where the limited availability of specialized facilities makes this necessary.

When student demand, as reflected by enrollments, shifts markedly, we must be in a position to realign our resources to meet new needs as well as to re-evaluate our commitment to programs experiencing reduced demand. For example, we are presently experiencing increased undergraduate interest in the biological sciences and heightened graduate interest in the professions. The professional schools are a general area of strengths to which we are committed and in which we are able to accommodate growth. The shift at the undergraduate level, however, was unexpected and requires some adjustment in our planning. The immediate concern has been the need to provide additional instruction at the lower division level in the introductory courses which are required preparation for majors in the biological sciences. Our long-range concern will be the impact of this shift on the social sciences and humanities which, within a fixed total student population, are experiencing a drop in enrollments as a result of increased interest in other areas. While we will be watching these trends closely, our present expectation is that interest in the sciences, particularly the life sciences, will remain high but will soon level off. We do not expect that the reduction in the humanities and the social sciences will be sufficient to affect our basic commitment to those disciplines which have been identified as core although some adjustment in the level of permanent resources may be necessary. While there may be fewer majors in these fields in the future, they remain essential components of the educational enterprise, providing

breadth at the undergradute level and support to graduate professional programs as well as contributing to growing interdisciplinary efforts at both the graduate and undergraduate levels.

Graduate Education

About one-third of UCLA's graduate enrollments on the General Campus and the majority of those in the Health Sciences are in programs leading to professional degrees. These students are pursuing programs that are very different in character from the traditional Ph.D. Often those who are looking at graduate education in the University fail to recognize the differences between the Ph.D. and other graduate programs and tend to assume that the same concerns are applicable to all.

The professional schools form one of the most vital links between the University and the outside world. They provide for both the education of future professionals and for the application of scholarship to problems of current public interest. Their educational programs are responsive to public needs and there is a close interaction between the academic and professional communities. A majority of faculty in the professional schools play a dual role, participating in both academic and professional activities and organizations.

Professional schools also perform valuable public service through clinical and internship activities which form part of their instructional programs. These activities supplement classroom experience by giving the student actual exposure to the delivery of professional services. At the same time, the recipients of these services benefit. Thus, for instance, in our medical programs we provide patient care of extremely high quality while in the process of teaching future physicians.

In addition to the professional schools, much of our present excellence in graduate education is centered in core academic disciplines or draws significantly upon them. Many of these are already highly ranked in national surveys of the quality of graduate programs. While every effort will be made to preserve the present quality of these programs, we will also be exploring ways to improve those that have yet to reach real distinction. Without the availability of significant new resources, however, these improvements will have to be made within the levels of faculty and support presently available to the campus. Thus, one aspect of the campus review process in the future will be the identification of the particular subdisciplines in which each department will concentrate its greatest effort.

Undergraduate Education

Our programs in undergraduate education are centered in the Colleges of Letters and Science and Fine Arts and in the School of Engineering and Applied Science, with smaller programs in the School of Nursing and Public Health. The bulk of the collegiate educational process will continue within the College of Letters and Science, which provides the breadth

required by other programs as well as comprehensive coverage of the general academic disciplines.

Recently, considerable concern has been expressed both within the University and from the public sector about the need to improve instruction in general and undergraduate programs in particular. As a result, we have focused a good deal of effort and resources on curricular improvement and instructional evaluation techniques. Our undergraduates now have a greater range of curricular options from which to choose and the opportunity to experience a wider variety of instructional formats.

While instructional improvement has recently been given high priority, it should not be assumed that we have overlooked it in the past. Innovation and experimentation have always been important features of our development. Furthermore, lasting improvement cannot be accomplished through special programs of an ad hoc nature that are dependent on temporary funding. Such programs are useful as a means of testing innovative approaches which can then be adopted and supported through the normal academic structure. Thus, wherever possible, we encourage the implementation of innovative and experimental approaches within the existing college or departmental programs rather than outside that framework.

Use of Resources

The most important resource of the University is its faculty. In the future, the General Campus will no longer receive faculty augmentations based on enrollment increases, although we still need to bring our student/faculty ratio to the approved level of 16.5:1. Thus, it is important that we maintain sufficient flexibility in the internal allocation of faculty to departments and schools to insure faculty renewal through adequate turnover rates as well as to enable us to re-distribute our resources within the campus to meet changes in workload requirements or new programmatic developments. We believe that our present allocation procedures provide this flexibility. Moreover, our present planning and budgeting process calls for significant participation from the deans and from appropriate committees of the Academic Senate, which include student consultation, in the development of priorities for the allocation of faculty positions to departments.

We will also be looking closely at our student/faculty ratios both for the campus as a whole and within each discipline to determine whether the current levels are appropriate for support of the programs which are planned or whether improvement is needed. At the same time, we will be analyzing the other costs associated with our academic programs to determine whether present support formulae are appropriate. For example, the cost of instruction in the sciences is greater than that in most of the social sciences and humanities due to the need for laboratories, smaller classes, and specialized equipment. The shift in student interest to these higher cost areas could cause serious deficiencies in our support budgets if additional funding is not provided.

Physical Growth

Adequate physical facilities will continue to be a concern at UCLA, although the physical plant for our main academic programs is now nearly complete. Specific projects that are currently planned call for expansion of all the fine arts facilities and additional space for the Schools of Medicine and Nursing. The major construction activity on the campus in the foreseeable future, however, will be the rehabilitation and remodeling of existing facilities to meet changing needs and the requirements of more stringent seismic and life safety codes. Additional development of the non-academic elements of the campus -- student-related facilities, site development, parking, and other transportation needs -- are also planned.

Other Aspects of University Life

In many respects, UCLA functions as a small city within the Los Angeles metropolitan area and, thus, shares in the problems and issues facing the community as a whole. The campus is unique among the general campuses of the University in having the smallest land area and the largest campus population. Each weekday, approximately 50,000 students, faculty, staff, and visitors conduct their activities on the 411 acres of the campus, presenting a population density that seems, at times, staggering. Parking facilities for over 18,000 automobiles and on-campus living facilities for nearly 3,600 students have not been sufficient to meet existing demands for the past several years, and parking and housing are currently major concerns. The unmet demand consequently spills out into the surrounding West Los Angeles community, resulting in some of the worst traffic congestion and highest population densities in the metropolitan area.

Clearly, the UCLA campus has a substantial impact on the surrounding community. Thus, we make every effort to work closely with local community and city governing and business groups in a joint effort to solve our mutual problems. Many members of the UCLA community, including students, faculty, and administrative staff, are involved at varying levels of community participation including the current chairmanship of the Los Angeles City Planning Commission and the presidency of the West Los Angeles Chamber of Commerce.

There are also more personal and individual opportunities for campus-community cooperation. Many campus programs and facilities are available to the public. These include our libraries, outdoor attractions such as the Franklin D. Murphy Sculpture Garden and the Botanical Gardens, and an extensive cultural program of art exhibits, concerts, plays, lectures, and dance performances. Future physical development of the non-academic functions of the campus will continue to recognize and provide for such community participation.

We will also continue to be concerned with the quality of campus life, particularly for our students, realizing that not all education takes place in the classroom and that not all time on campus is spent in lecture halls, libraries, or faculty offices. A comprehensive array of student service programs is in year-round operation at UCLA, ranging from the traditional student health, counseling, and placement services to more specialized programs for foreign students, handicapped students, and military veterans. Students may also take advantage of an extensive list of programs and activities designed for personal development and enrichment such as fine arts programs, lectures, concerts, athletic activities, and numerous special interest clubs. Specialized counseling and tutorial programs, both on campus and in local communities, are available to the student with particular academic problems. Students are also given a broad spectrum of opportunities to participate in campus governance, through Associated Students groups and a variety of campus committees and boards. The importance of all of these kinds of activities cannot be overlooked in our planning and budgeting process. The provision of adequate levels of support and the identification of appropriate sources of funding for these areas may require revision of traditional policies as needs and requirements change.

Conclusion

Although the future will bring little overall growth in enrollments, the qualitative growth and development of our programs must continue. On-going programmatic review will also play an important role in the reassessment of our priorities. The demand for our graduates, both from the standpoint of student interest and with regard to community support and job markets, will be taken into consideration in the evaluation of our programs. Much of this development can be accomplished by shifting or redirecting present resources. However, to keep pace with these changes, we must develop greater flexibility in the release and redistribution of those resources.

We must also continue our efforts in the improvement of undergraduate education and in the evaluation and improvement of teaching. The development of new approaches to the curriculum and of smaller classes and more relevant learning experiences must be carefully planned and supported if upper division and graduate programs are not to suffer. Finally, our faculty must be kept vital and progressive through innovative and creative approaches to faculty renewal.

The University is a unique institution whose place in today's society is being seriously questioned at a number of levels. Many of these questions deal with legitimate and appropriate issues which must be addressed and resolved. However, it is important that in responding to new goals and changing needs, we do so in a way which represents the very best use of our special resources and facilities. We will eschew the temptation to divert our efforts to programs of a transitory nature which, although socially popular, add nothing to our overall quality. We must recognize that our role cannot be all encompassing, that while there are many things that the

University is uniquely equipped to do we cannot and should not do everything, and that whatever we undertake should only be done within the context of programs that maintain the highest intellectual quality.

All around us today there are those who criticize the University by saying that we are intellectual elitists, that we spend time and energy exploring matters they believe to be irrelevant, that we insist on quality as a precondition to membership in our institutional family. To these critics UCLA stands guilty as charged. If it were not so, we would be failing in the fulfillment of our mission.

RIVERSIDE

CHANCELLOR IVAN H. HINDERAKER

Organization and Structure

UCR has been developed from two separate and quite different strains. One was a highly specialized research institute -- the Citrus Research Center, later renamed the Citrus Research Center-Agricultural Experiment Station (CRC-AES) -- which began operation in 1907. The other was the College of Letters and Science, which opened in 1954. It was to remain small, limited to some 1,500 students and its mission was to be exclusively undergraduate education.

In 1959, UCR was designated a general campus of the University. The organization of the Graduate Division followed, with the first Ph.D. program getting underway in 1960. In that same year, the staff of the CRC-AES became involved in instruction through the formation of the College of Agriculture.

Major objectives over the past decade have been the development of a general campus, the development of graduate programs, and the integration of the departments in agriculture (80 per cent biology-oriented) with the total instructional and research dimensions of the campus. The most important step toward removing obstacles to such integration was taken in 1968 with the creation of the College of Biological and Agricultural Sciences, joining together the Department of Life Sciences of the College of Letters and Science and the College of Agriculture.

Campus instructional and research programs are presently organized as follows: the Colleges of Natural and Agricultural Sciences, Humanities (including the Division of Fine Arts), Social and Behavioral Sciences; the Division of Undergraduate Studies; the Graduate Division; the School of Education; and the Graduate School of Administration.

Pending in the Office of the President are recommendations for two other organizational changes. One is to merge the College of Humanities, the College of Social and Behavioral Sciences, and the Division of Undergraduate Studies into a College of Humanities and Social Sciences. The other calls for the elimination of the Department of Education in the School of Education. Current planning does not envision departmentalization of the School's functions.

In addition to integration of the agriculture components into the mainstream of the campus and reduction of the costs of administration, organizational decisions have been designed

to help produce an environment which would: (1) enhance the campus' ability to perform its undergraduate and graduate instruction, research, and public service functions at a high level of excellence; (2) facilitate the natural development of research and instructional interrelationships among faculty within the colleges and schools, and between them; (3) represent the most appropriate organizational scale for campus functions, with special emphasis on serving individual students' needs; (4) improve two-way communication in academic decision-making between departmental considerations, on the one hand, and area-wide and campus-wide considerations, on the other.

The Student Body

UCR's 1973-74 three-term total enrollment was 5,086. Over the decade of the 1960s total enrollment had moved from 1,573 to 5,717 -- at an annual average increase of 14 per cent. In 1971-72, it went to 5,782, with the rate of increase slowed to one per cent; then in 1972-73, there was a drop to 5,235. This new level, in itself, is not a problem. At 5,000 students, UCR retains many of the advantages of relatively small size while gaining some of the advantages of relatively large size. The campus now has both the variety and quality in programs which are properly associated with an excellent small university. UCR's undergraduate program resembles that of a large general campus with a broad range of intellectual activities in the sciences, arts, and humanities. Because of UCR's smaller size, it offers students an environment and an intimate style of interpersonal relationships different from those possible at large campuses. This size represents a blend congenial to the character of UCR as it has been developing from the beginning.

The campus' immediate problem results, however, from the need to adjust resources downward in relation to the changes in total enrollment. During the 1968-69 through 1971-72 period, UCR was assigned 54 new faculty positions, with 42 of those coming in 1970-71. Over the 1972-73 through 1974-75 period, the campus must return 52 positions. Enrollment is expected to stablize at about 5,000 students, with 5,400 estimated for 1981-82.

In 1973-74, approximately 25 per cent of the student body were graduate and professional students, 50 per cent were upper division undergraduates and 25 per cent lower division. Over the past decade, the proportion of graduate and professional students has held relatively constant (23.9 in 1965-66 to 24.5 in 1973-74), the proportion of upper division students has increased from 36 to 48 per cent, and the proportion of lower division has decreased from 40 to 27 per cent.

About one-half of UCR's students come from Riverside and San Bernardino counties; about 80 per cent from Southern California. Twenty per cent live on campus, 58 per cent in rental units off campus, and 22 per cent at home with parents or relatives. Twenty-five per cent are married.

Interviews with UCR students indicate a generally high degree of satisfaction with the academic dimensions of the campus. In a survey of undergraduates in 1972, UCR's greatest assets were seen as teaching quality, size, academic majors, and faculty relations. Most frequently mentioned liabilities were location, social environment, informal social activities, cultural activities, and cost. As indicated by this survey, and by others, in the past there has not been the same degree of satisfaction expressed for the extra-academic as for the academic aspects of campus life. During the "Vietnam era," little could be accomplished toward the objectives of improving the quality of extra-academic aspects of student life. Student leadership groups, and students generally, were so concerned about events and movements outside the campus that there was little time or thought left for their participation in building within. Over the past two years, however, there has been a marked shift of both leadership and general student attitudes about the duties and privileges of campus citizenship. Working with students and faculty, the administration has made the improvement of UCR's extra-academic life -- culturally, recreationally, and socially -- a matter of high priority.

In population characteristics, the larger Riverside-San Bernardino community includes approximately 15 per cent who are of Mexican-American background, and 4 per cent who are Black. As throughout the country, many individuals in these minority groups have been denied educational opportunities which have been readily available to others.

To help correct this deficiency, all of education must be prepared to serve what are a special set of educational needs -- needs which will continue until integration into the mainstream of educational opportunity has become complete. For UCR, one special element designed to serve these special needs consists of two interdepartmental ethnic studies programs -- Black Studies and Mexican-American Studies. At a time when such programs are dying out or often proving to be an embarrassment on some campuses, UCR's are making solid progress. This is particularly so with the Mexican-American Studies Program, in part because of the geographical location of UCR. This campus' commitment to both programs, in both their academic and their extra-academic dimensions, will continue for as long as they serve a need.

Undergraduate Education

In some universities, research and the Ph.D. have become such a "first goal" that all of undergraduate education has suffered. UCR has developed differently. Its original mission was to provide an undergraduate educational opportunity that was the equal, if not the superior, of the best of long-established private liberal arts colleges. The campus achieved national recognition, almost from the beginning, for the high quality of its undergraduate education.

Preservation of the intellectual scope of our undergraduate curriculum has higher priority than it would if research and the Ph.D. were the "first goal." This is essential if the campus is to offer undergraduate students an opportunity to penetrate deeply into a major specialization in any of the main fields of knowledge, and then to have available the necessary breadth in all of those fields.

Given this view of undergraduate education, the attitude of the campus toward other issues is also different. There is: (1) more concern for creating an environment which addresses the needs of the whole undergraduate student as a complex functioning individual, with cultural, social, and recreational needs as well as academic needs; (2) more concern for close faculty-undergraduate student relationships as well as for close faculty-graduate student

relationships, and for insuring excellence in all instruction; (3) more concern about creating opportunities for research, field work, and internships for undergraduates as well as graduate students; (4) more concern by departments and colleges about courses designed for non-majors as well as majors; and (5) more concern about developing interdepartmental, as well as departmental, curricula in response to student interests and needs.

UCR has 29 undergraduate departmental majors and 26 interdepartmental majors. Within that total, the College of Humanities has 12 departmental majors and 5 interdepartmental majors. The corresponding figures for the College of Natural and Agricultural Sciences are 12 and 6; for the College of Social and Behavioral Sciences, 5 and 9; and for the Division of Undergraduate Studies, 0 and 6.

Projecting to the end of the decade, the proportion of undergraduate students majoring in the College of Natural and Agricultural Sciences will increase; the proportion in the College of Social and Behavioral Sciences and the College of Humanities will decrease, though within the latter the Division of Fine Arts will increase.

Graduate Education

Less than a decade after the organization of the Graduate Division, this campus was recognized by being ranked 30th nationally in the American Council on Education-sponsored 1969 Roose-Anderson survey of quality of faculty in selected disciplines. UCR was one of the few institutions to be added to the list at that time. The rate of progress was made possible because both UCR's excellence in undergraduate education and the long-established CRC-AES served as solid foundation blocks upon which to build graduate programs. The campus is committed to maintain and improve upon that level of excellence in graduate education.

Characteristics of early UCR undergraduate education which helped graduate education get off to a strong start included small and intimate classes that had about them an atmosphere of a graduate seminar, undergraduates working in faculty laboratories as research assistants, a senior thesis required of all students, and undergraduates reading

papers at meetings of professional societies and publishing scientific articles in scholarly journals. Some have suggested that early UCR was in effect a "graduate program" for undergraduates. Whatever the extent to which this was true, the academic standards of the campus and the quality of students and faculty (even if almost all the faculty were in the most junior of instructional ranks) tended to create an environment into which an excellent graduate dimension could quite naturally and immediately fit.

At the time the Graduate Division was organized in 1960, the CRC-AES had 106 professional staff members. In many of its fields it had achieved a high order of distinction; and, in some fields, an international reputation. While budgetarily separate from the academic structure of the colleges of which it has been a part, the staff of the CRC-AES has been and continues to be deeply and inextricably involved in instructional programs, particularly in graduate programs in the agricultural sciences.

Teaching, as well as research, is a major responsibility of many recipients of Ph.D. degrees. Most of the UCR graduate programs require demonstration of teaching effectiveness as a partial condition for the degree. Generally this experience comes through service as a Teaching Assistant -- a function which departments are upgrading through training sessions focusing on philosophies and techniques of teaching, including approaches to lecture, laboratory, discussion, and seminar presentations; the use of audiovisual and other aids; and test construction.

Including the School of Education, UCR has 29 Ph.D. and 29 masters level programs. Graduate enrollment, including both Education and the Graduate School of Administration, has held relatively constant from its peak of 1,299 in 1969-70 through its 1973-74 level of 1,246. Within these totals, there have been shifts between departments and programs, with the more applied areas tending to increase and some of the traditional Ph.D. areas tending to decrease. Projecting to the end of the decade, the proportion of graduate students in the humanities and physical sciences are expected to be lower than they were in 1970-71; in the social sciences, slightly lower; and in the biology-agriculture areas, higher in some fields and lower in others, but with an overall increase.

Professional Education

While UCR's undergraduate programs should avoid a narrowly conceived vocational approach, this campus does have a responsibility to help its graduates achieve a functional role in society. In defining a campus' role in career education, it is also necessary to draw a distinction between what is done at the graduate and the undergraduate levels. The latter should be less "professional" than the former. However, within the context of such a distinction, it is sometimes desirable to relate an undergraduate program to a post-baccalaureate professional program. An example is the UCR/UCLA Biomedical Program. Another example of this relationship, though less direct, is the interdepartmental Program in Administrative Studies for those planning to go on to graduate work in the field of administration. Some departmental and interdepartmental programs such as urban studies, environmental science, applied science, human development, and various types of pre-medical, pre-dental, pre-veterinary medicine, and pre-law combinations can perform similar functions for the student who is concerned both about a liberal arts education and his/her career.

At the post-baccalaureate level, in addition to a portion of the UCR/UCLA Biomedical Program, UCR has two professional schools -- the School of Education and the Graduate School of Administration.

Although demand for teachers has gone down both nationally and locally, demand for teachers specially equipped to work with exceptional children, both handicapped and particularly gifted, continues strong. Anticipating this need, the School of Education has oriented its four credential programs toward developing teachers who can deal not only with normal teaching assignments, but who are qualified to work with the "exceptional child" problems of schools, including bilingual-bicultural education. Graduate programs at both masters and doctoral levels are available with specialties in learning and instruction, special education, and, through the Graduate School of Administration, in educational administration. Placement of graduates of the credential programs of the School of Education has been maintained at about the level of 85 per cent of each class seeking employment. This proportion would be

even higher if all credential recipients were willing to move to new locations.

The curriculum of the Graduate School of Administration is organized into two levels. All students take similar work in the basic managerial core program, including organizational theory, interpersonal behavior, financial management, policy and planning, and quantitative decision-making. Beyond the core, each student develops a specialty in either business, governmental, educational, or environmental administration. The program of the School has been designed for the professional master's degree level.

Veterinary Medicine Clinical Facility

The University is currently conducting studies, at the direction of the Legislature, for the development of a central California and a southern California veterinary medicine clinical facility. The southern California facility should be located at UCR. Of the site alternatives, UCR has the most suitable available land. It is the most centrally located. It has the most congenial (and best) academic environment for a facility which can serve the needs of all the animal populations of southern California, including agricultural animals. It is in an area where there is a shortage of doctors of veterinary medicine. In addition, UCR's need for the program is the greatest.

Research

Support for faculty and student research is critical to the functioning of the campus in both its research and instructional dimensions. That support comes from several sources.

One is through Organized Research (OR) units. UCR's OR units are: the CRC-AES, a part of the University Agricultural Experiment Station with branches also at Berkeley and Davis; the International Center for Biological Control, a two-branch organization with headquarters on the Berkeley campus; the Institute of

Geophysics and Planetary Physics, a three-branch organization including UCSD and with headquarters at UCLA; the Computer Sciences Institute; the Center for Social and Behavioral Science Research; the Dry Lands Research Institute; and the Statewide Air Pollution Research Center (SAPRC) involving all the campuses of the University, with headquarters at UCR.

With the exception of the SAPRC, each of the OR units is included within one of the colleges or schools. They are located organizationally in this manner to facilitate interaction between research and instruction, and between basic and applied approaches to research.

The largest and most significant of the OR units is the CRC-AES. Its primary function is to serve southern California agriculture and consumers of its products. Its main research emphases are: (1) subtropical and desert crop production; (2) urban and suburban plant industry with a stress on ornamental horticulture as it relates to woody perennials, turf and flowers, and nursery and landscape crops; (3) scientific disciplines related to pest control and management, including insects, mites, nematodes, bacteria, viruses, fungi, weeds, vertebrate pests, and other pests; (4) environmental planning as it relates to shifting patterns of land use in southern California; and (5) the effects of soil, water, and air pollution on biological systems.

The academic staff of the CRC-AES consists of 146 members, all but seven of whom hold joint appointments in the College of Natural and Agricultural Sciences. At any one time, there are some two hundred or more research projects underway -- about two-thirds in the area of crop production and one-third concerned with developing new basic knowledge or improving man's health and environment.

State of California funding for UCR's six OR units totalled $6.6 million in 1973-74, with $6.2 million of that for the CRC-AES and $331,000 for the SAPRC. A second State source of research support is through the "Instruction and Research" category of the University budget. A third source of research support for individual faculty members, or groups of faculty and students (as

well as for OR units) includes contracts, grants, or grants-in-aid from the Federal Government, foundations, industry, other private donors, and other governmental agencies. In 1960-61, the total from such sources was $690,000. By 1973-74, total extramural support from such sources had increased to $8.9 million -- up 12 per cent over 1972-73.

The Academic Planning Process

The UCR concern is for an environment in which there is a continuing evaluation of changing conditions and of alternative ways of doing things; in which there is extensive consultation between administration and faculty and students about the relative merits of alternatives; and in which there are prompt and clear decisions when they can and should be made.

The Vice Chancellor for Academic Affairs is engaged in continuous planning with the deans; the deans with their respective departmental and program chairmen and organized research unit directors; and they, in turn, with their respective faculties and staffs. The Vice Chancellor for Academic Affairs is also the contact point through which the administration works on academic planning matters with committees of the Academic Senate and ASUCR.

SAN DIEGO

CHANCELLOR WILLIAM D. McELROY

As this academic plan was being prepared it was evident that no viable course for the future of U.C. San Diego could be plotted without facing several critical and overriding issues. These issues, together with the general character of the campus response to them, form a backdrop for spotlighting the programmatic and disciplinary features which will receive the greatest emphasis during the time span covered by the plan.

These critical issues which have overall influence on the academic plan and academic planning at UCSD are at least six in number. They are:

1. The achievement of reasonable academic balance among the sciences, humanities and arts.

2. The maintenance and improvement of the highest quality faculty, students, and programs.

3. The improvement of the quality of undergraduate education, particularly as this can be achieved through the college and departmental structures.

4. The growth of enrollments and the necessity for commensurate growth of operating dollars and capital improvements.

5. The development of multi-disciplinary academic programs based in and not distinctive of fundamental disciplines.

6. The extension of the educational resources of UCSD to more members of the community without spreading those resources too thinly.

The campus academic plan reflects a concern for and approach to these issues from both a campus and a Universitywide perspective. At the campus level, the plan is a functional tool with which to describe shared goals and measure incremental progress toward them. Most of all it asserts

a strong intent to capitalize on the unique characteristics of UCSD to shape rather than be shaped by the future.

From the vantage point of the University system as a whole, the plan takes into account the fact that the path of UCSD's development directly affects and is affected by the development of every other campus. The UCSD academic plan was designed to be read along with the plans of the other UC campuses. It attempts to provide part of the information necessary to prevent conflict, promote compatible programs, and ensure equitable distribution of limited resources among the campuses.

These campus and Universitywide perspectives reflect the general character of the plan. However, the essence of the plan and of UCSD itself is found in the particular emphasis given to certain programmatic and disciplinary features of the campus. To understand these emphases and their implications for today and for the future is basic to understanding the planned direction of the San Diego campus. The four principal structural units of the campus are the context in which specific features receive their emphasis.

One unit is the General Campus which includes 19 academic departments and several interdepartmental programs upon which are superimposed four residential colleges. Undergraduate education is organized around the four colleges, each of which has a distinctive educational program and style and a faculty made up of members of the various departments. The collegiate structure has introduced an enviable degree of diversity into a relatively small campus while providing highly desirable curriculum and administrative flexibility. These factors have combined with a prime location to make UCSD a favorite among students. However, this popularity has resulted in serious overcrowding in Revelle and Muir Colleges which will have to be accommodated by accelerated expansion of Third and Fourth Colleges to their steady-state sizes.

In the future, the four colleges will continue as centers of undergraduate education both in and out of the classroom. Each will have facilities to serve about 2,300 students with a possibility of a fifth college of like size if student demand remains high in the 1980s. The undergraduate mix objective is 40 per cent lower division and 60 per cent upper division.

The academic departments share the prime responsibility for graduate education. Their content and configuration will receive major emphasis during the period of the plan. To achieve the requisite academic balance, UC San Diego must strengthen its social sciences, and to some extent its humanities and arts, at a more rapid rate than the more established physical and biological sciences. Comprehensive analysis of departments indicates a desirable goal for faculty distribution of approximately 40 per cent in the physical and biological sciences, 30 per cent in the social sciences, and 30 per cent in the humanities and arts. The growth of graduate students in General Campus programs will be about 100 per year through the late 1980s in order to achieve the preferred campus ratio of 25 per cent (or 2,400) graduate students.

During the time span of the plan, the departments will continue to serve as the fundamental structure for disciplinary scholarship and teaching. However, primary emphasis will be given to the establishment of additional programs at the BA and MA levels. These programs will use a multi-disciplinary approach to focus on broad problem areas and will essentially form a "second matrix" of courses and programs--the departments being the first. The plan outlines the nature of this emphasis in areas such as computer sciences, energy and natural resources, biological and related sciences, a center for policy studies and political science, and a center for Iberian and Latin American Studies.

Additionally the academic plan provides for the development of a number of "terminal" MA programs, both departmental

and interdepartmental. These emphases will serve to broaden the scope of UCSD's graduate enrollment (now almost entirely Ph.D. candidates) as well as provide viable career alternatives to those students who for whatever reason do not pursue doctoral or professional degrees. The outstanding pre-medical student who cannot be admitted to medical school is a prime example. New programs in clinical chemistry, pharmacy, nursing (M.A.), clinical psychology or hospital administration are of the type being considered by the campus.

One final major emphasis growing out of the General Campus unit is that planned to be given to postdoctoral education. UCSD is already a leader at this level because of its strong science components. This postdoctoral leadership is anticipated to extend into the humanities and arts on the campus. Such an extension would be a relatively new development in higher education and its success would earn national distinction.

Another organizational unit providing a context for particular academic emphasis is the Scripps Institution of Oceanography. Scripps is divided essentially into four programmatic areas: physical, biological, geological, and chemical. As an instructional unit, all of the faculty of SIO are constituted as an academic department. With the notable exception of participation in some interdisciplinary undergraduate programs of the General Campus, Scripps is primarily a graduate, postdoctoral, and research institution.

With a few exceptions, SIO now adequately covers the spectrum of marine sciences. As new positions become available and as vacancies occur during the course of the plan, SIO will continue to shift its strength and internal organization to reflect the needs for education and research for the next decade. The department plans orderly expansion to steady-state enrollment of 259 graduate students.

A third campus unit is the School of Medicine which has two general categories of departments: clinical where almost all of the faculty are M.D.'s and are involved directly or indirectly in the practice of medicine; and the participating departments of the campus, in which appointments are made using positions assigned to the School of Medicine.

During the next five to seven years, the School of Medicine will attain its first entering class of 128 students and move toward steady-state enrollments in the early 1980s of 512 undergraduate medical students, 505 interns and residents and 128 graduate academic students. Growth will obviously be a major emphasis and along with it the resources, both operating and capital, to support that growth.

The emphasis on growth is not only quantitative, but qualitative as well. Five substantive areas of stress are anticipated:

1. Development of all major clinical specialities to meet adequately teaching and service needs.

2. Development of programs to meet new requirements of health care delivery for the next several decades.

3. Plan for and matriculate students in additional health services fields at both professional and graduate student levels.

4. Develop institutes related to functional areas to conserve existing and attract additional resources and to provide more comprehensive investigation of problem areas.

5. Improve and expand community service programs.

The School of Medicine has now and will expand its affiliation agreements with area medical institutions, most notably the adjacent Veterans Administration Hospital, to provide additional clinical settings for its students and faculty.

However, the primary clinical setting for the teaching and research activities of the School of Medicine is in the fourth basic structural unit of the campus--the University of California Medical Center, San Diego. The University Hospital, located 15 miles south of the General Campus, is the major element of this unit. The 425-bed hospital will be augmented over the course of the plan by the construction of a new outpatient wing and teaching facilities. These will provide a focus for an even greater emphasis on the clinical aspects of medical education as well as increased direct service to the San Diego community.

These, then, are the principal programmatic and disciplinary features emphasized in the campus academic plan. While they are central to the development of UCSD, there are a few overriding concerns worthy of some attention before taking up the plan in detail.

Chief among these concerns is the issue of an appropriate ultimate level of enrollment which will allow for the creation of a truly great university at UCSD while at the same time meeting the educational demands of the population it serves. Although present plans call for a ceiling of 8,000 undergraduates, most indications point to the 10,000 level as more realistic. While the reasons for growth are outlined in detail in the plan, it is important to keep in mind as an overriding issue which affects all the others. Given the lead time necessary to obtain the resources for any change in the planned enrollment ceiling, a decision on this issue should be made within the year.

Linked to the issue of size are, of course, the related matters of space, student-faculty ratios and instruction and research support. Again, these are covered in the body of the plan but one issue requires immediate resolution. Unless funding is approved for the remainder of the space for Third College and all of the space for Fourth College (space already justified by present and projected enrollments), facilities will lag several years behind undergraduate enrollments.

Another special concern is for the future of part-time degree education. The campus strongly believes the future will indicate a high demand for the Extended University type of educational experience in spite of previous "slow starts" in the past. There is no question that such valuable educational service to the public which supports the University is not only justifiable on its own merits, but warranted in view of the three-sided mission of the University of California.

The final and perhaps even foremost overriding concern of U.C. San Diego is for undergraduate education. Current programs and a unique college system provide excellence in many areas of undergraduate endeavor, but this is not good enough. The attrition rate of undergraduates is higher than it should be and this probably reflects the need for more and different course offerings as well as for mechanisms to improve the cultural and social environment outside the classroom. This concern will receive priority attention during the next two to three years.

This campus academic plan provides a means of directing and harnessing the vast potential of UCSD--a campus already growing and already in motion. It is an attempt, once again, to take an orderly and goal-oriented hold of this growth and motion without becoming its victim. The programs have been designed to understand and meet the challenges and needs of the internal society of students at the undergraduate and graduate levels and to respond to the external society's interests and concerns for this region, state, and nation. UCSD will grow by building upon existing strengths and uniqueness in a manner that will benefit not only the campus itself, but the entire University of California as well.

SAN FRANCISCO

CHANCELLOR FRANCIS A. SOOY

The San Francisco Campus is unique in the University in that it is the only campus whose programs are devoted exclusively to the health sciences. In conformity with the obligation of the University for education, research, and other public service the mission of the San Francisco campus is (1) to educate health science students (2) to conduct health science research (3) to provide high quality patient care and (4) to engage in other health related service programs.

Programs of instruction, research and public service are conducted within the four Schools of Dentistry, Medicine, Nursing and Pharmacy. Graduate academic degree programs of the Schools are administered by the San Francisco Graduate Council. The San Francisco Campus has developed into a major academic health sciences university with the broadest range of training programs for its students, a center of research and research training, as well as a major provider of health care to the people of California.

Professional training programs include first professional degrees in Dentistry, Medicine, Nursing, Pharmacy, Dental Hygiene and Physical Therapy, certificate programs for a limited number of students in other allied health fields, post-graduate training programs for a large number of interns and residents, post-docforal fellows, and dental and nursing professionals. Development of graduate academic programs has concentrated in the basic health sciences as well as those biological, physical, behavioral and social sciences related to health. The Campus has been an active participant in intercampus graduate groups.

Basic health sciences instruction for all Campus programs is centered at the San Francisco site. While clinical instruction for all programs has a strong component on the Parnassus Avenue Campus, clinical centers have been developed at the San Franciso General Hospital, the Veterans' Administration Hospital, and many other Northern California hospitals and other health agencies.

The Campus has provided leadership in its response to the public health needs of the State and nation. Examples of its contributions are:

Recent expansion of enrollment in all of the professional schools.

Participation in a joint experimental medical education program with the Berkeley Campus.

Major contributions to advancing knowledge in the health sciences and improving man's health.

Decentralization of the clinical training programs to San Francisco General Hospital, Veterans' Administration Hospital and other hospitals and health agencies, including communities with health care deficiencies.

Increased emphasis on primary care at the undergraduate and graduate levels of instruction.

Development of the clinical dimension in the training program for pharmacists and the role of the clinical pharmacist.

Development of Nurse Practitioner and Nurse Specialist training programs. Development of model interdisciplinary training programs and comprehensive health care clinics.

Health policy research, health manpower research, health education research, and research in health care delivery.

Increasing the educational opportunities for women and minority students.

Expansion of continuing education programs for health professionals.

Cooperative programs with state and junior colleges in the training of allied health professionals.

Considerable attention has also been devoted to improving Campus-community relations and improving employment opportunities for minorities and women.

The Campus is firmly committed to maintaining the excellence of its teaching, research and patient care. The provision of modern health care facilities is essential to this goal.

The Moffitt Hospital Modernization project is a rehabilitation program to consolidate the two important hospitals (UC Hospital and Moffitt Hospital) and to remedy the major difficulties that hinder patient services, the teaching programs and the ability of employees and staff to provide modern hospital care. Construction will be limited to that required to overcome the serious deficiencies in the present facilities and to sustain current public service and teaching programs.

Similarly, space and equipment problems have made it increasingly difficult to maintain and teach high quality dental care in the on-campus clinics. The modern facilities planned in the proposed School of Dentistry Building and in two off-campus clinics will enable the School to improve its capabilities for high quality teaching, research and treatment.

Plans also include the upgrading of facilities in the Langley Porter Neuropsychiatric Institute. This project will effect long deferred maintenance, correct serious life safety deficiencies, modernize the in-patient and out-patient areas, and adapt facilities for integrated operation with other Campus programs appropriate to the recent transfer of the institute to the University.

Other major projects essential to the programs of the Campus are:

Alterations to the Clinics and Medical Sciences Buildings.

Upgraded animal facilities.

Seismic and fire protection corrections or improvements to various campus buildings.

Recognizing that the traditional concepts of health and health science are in the process of rapid change and embracing the World Health Organization definition of health as a state of "complete physical, mental and social well-being and not merely the absence of disease", it is the intention of the Campus to expand its already substantial strength in human biology by adding new and strengthening existing activities in the basic biological, physical, behavioral and social sciences. These activities, to be centered in a proposed fifth school, the School of Human Biology, will provide strong academic support for the programs of the existing professional Schools of Dentistry, Medicine, Nursing, and Pharmacy, and in turn will expect strong support from these Schools for its own programs. On September 18, 1969, The Regents authorized establishment of a School of Human Biology on the San Francisco Campus, with instructional programs leading to the M.S., M.A., and Ph.D. degrees in academic disciplines relevant to the health sciences and directed the President to approve implementation of plans for the School when budgetary resources are available. By agreement with the President, the Campus has deferred creation of the School until a substantial number of programs can be established to justify a separate organizational entity. Until that time, essential high priority programs are being developed within the existing professional schools, utilizing, wherever possible, the strengths on other campuses. A Director of Human Biology Programs who chairs a planning committee to coordinate and recommend the development of these programs has been appointed, and a number of alternative proposals for the organization of these programs pending establishment of the School of Human Biology are under consideration by the Campus.

Most of the projected growth in graduate academic enrollment through the provisions of Phase I of the Health Science Bond Program occurs in the proposed School of Human Biology, with only modest increase projected for the other four schools. This growth, from the present (Fall, 1974) enrollment of 71 students to 230 in 1979-80, increases slightly the ratio of graduate academic students to first-professional students and to the total Campus enrollment.

In the University of California Academic Plan, 1974-78, the University places great stress on developing new programs to meet the State's need

for expanded health manpower and improved health care. Campus plans for 1974-85 include innovative approaches to health science education in an effort to contribute to these programs and to the University's plan for meeting the State's needs for primary care services and physicians. Highlights of these plans are:

An increase in the D.D.S. class size from 88 to 108 students.

An increase in the Pharm. D. class size from 105 to 120 students.

Continuation of the third and fourth years of the combined Berkeley/San Francisco Medical Education program, which increased the Medical School class size by 12 from 146 to 158.

Extension of the medical education program to Fresno, increasing the class size by 20 students in the first and second years and 30 students in the third and fourth years.

Corresponding increases in interns and residents, particularly in primary care fields and in D.D.S. specialty training programs.

The inclusion in the regular undergraduate program of the School of Nursing of a program to enable registered nurses in the San Francisco area to work part-time towards the B.S. degree.

A liaison between the School of Medicine and the California College of Podiatric Medicine to improve the training of podiatry students.

Extension of the School of Dentistry's program to off-campus satellite clinics at San Francisco General Hospital and the Laguna Street Extension Center.

Establishment of clinical pharmacy clerkships at the University Hospital in San Diego and the Veterans' Administration Hospital.

While much of the planned growth will occur off-campus, a balanced clinical program for students includes experiences in the highly specialized on-campus facilities as well as in primary care settings. Of special concern to the Campus in the coming years is the severe limitation of on-campus space in which to conduct its programs. Campus efforts are being directed toward exploring all possibilities for suitable off-campus space as well as extending its programs to off-campus institutions. Maximum efficiency is being sought for the use of the 1,700,000 assignable square feet of space to which the Campus is limited.

Planning efforts will be devoted to seeking and maintaining suitable balances among the Campus' teaching research and patient care responsibilities, the various educational programs and levels of instruction. This planning will require a careful assessment of what activities must be conducted on-campus and what activities can be conducted effectively off-campus.

Another important concern to the Campus is the improvement of Campus-community relations and the development of long-range physical plans which maximize the utilization of the on-campus space and are consistent with the concept of the development of a physical "soft edge" transition between the Campus and the surrounding residential community.

Also of special importance to the Campus is the implementation of affirmative action programs to increase opportunities for women and minorities on the faculty and staff.

SANTA BARBARA

CHANCELLOR VERNON I. CHEADLE

UCSB is a developing general campus in the sense that full projected enrollment is still some five to seven years away and that there is an imbalance stemming from the underrepresentation of professional education. It is a developed campus in the limited sense that within the existing three traditional units--Letters and Science, Engineering, and Education--there is a nearly complete range of the appropriate departments, programs and graduate and undergraduate degrees.

The Santa Barbara campus is now at a turning point in its history. The period of hectic growth is over, the problems associated with the brief period of enrollment declines have been dealt with, and the campus has now embarked on a new phase of moderate and yet significant growth during the next several years. Enrollments are expected to increase from about 12,800 (3-term headcount) students in 1974-75 to 14,800 in 1984-85. This prospect has critical resource, and therefore developmental, implications. The expected increase of the campus' resources includes more than 100 new faculty positions in addition to those resulting from the internally generated vacancies. The scope of the developmental opportunity, therefore, is large.

Having already achieved breadth and diversity in its existing programs, the campus is now on the threshold of transforming itself from a center of great strength to one of recognized excellence through the wise infusion of outstanding faculty talent. The realization of excellence by national standards is within the institution's grasp. The central objective of UCSB's Academic Plan is to add to the quality and depth of its existing programs by judicious allocation of resources and faculty positions. Two other broad objectives of the Plan are the redress of the imbalance between the liberal arts and professional programs, and the further development of programmatic breadth, diversity and flexibility necessary for the continuous response to changes within the academic disciplines and in social and student preference patterns.

Principal Programmatic Features

The three traditional colleges are relatively large. The College of Letters and Science is the largest among the developing campuses. (In fact, it is the third largest in the system.) In Engineering and Education, UCSB also ranks first in enrollments among the developing campuses with programs in these areas. These comparisons apply both to graduate and undergraduate enrollments. UCSB is substantially over the critical minimum size needed for these programs to be viable and vital.

Within the existing colleges there is programmatic breadth reflected in the very large number of program options from which students can choose. The College of Letters and Science, for example, offers nearly all the undergraduate options offered in the two large campuses--a significant achievement considering the more intimate medium size of the UCSB campus. There are also some programs which are unique to this campus, such as the Department of Religious Studies, and undergraduate programs in Speech and Hearing and in Law and Society. In Letters and Science alone, there are 72 degree-granting majors and programs. Engineering and the Graduate School of Education also offer their own nearly complete range of appropriate options.

These programs are not only large in number, but also diverse in nature. At the undergraduate level they include: (1) Large liberal arts programs; (2) Career-oriented majors, such as Business Economics, Computer Science, Aquatic Biology, Developmental Psychology, Engineering and others. Career-oriented programs have increased in importance in recent years, and we expect that this trend will continue; (3) There are strong and rapidly developing pre-professional programs, involving advisory assistance, admissions counseling, and curricula designed to prepare students aspiring to careers in medicine, dentistry and law; (4) There are also interdisciplinary majors, ranging from some catering to current social concerns, such as the large Environmental Studies Program, to others serving a smaller number of interested students, for example, Medieval Studies.

Programmatic diversity has been significantly enriched by the presence of the College of Creative Studies, a fourth college, which offers unusual opportunities for

exceptionally gifted students. This is an academic unit, probably unique in the country, where all classes are tutorials or seminars.

Breadth and diversity are also true of UCSB's graduate programs. The three traditional colleges offer at the graduate level a nearly complete spectrum of the basic academic disciplines appropriately falling within these colleges. Combined, they offer 39 M.A. and 28 Ph.D. programs. There is also reasonable balance among the disciplines involved in these programs, both undergraduate and graduate. None of the broad disciplinary areas tends to overshadow the others.

The campus' programmatic pluralism is also expressed in the increasing diversity of instructional methods. One manifestation of this is the increasing use of technology, such as television and auto-tutorial techniques. It is significant that during 1972-73, 45-50% of the faculty in different disciplines made use of the Learning Resources facilities. This figure is expected to increase when the new Learning Resources building is completed in 1975. There is also an increasing diversity in classroom settings. Perhaps the most significant step forward here was the introduction last year of a large-scale, very successful program of Freshman Seminars.

Projected Emphases: Planning Guidelines

The following is a key statement from the University of California Academic Plan for 1974-78: "Graduate development at Santa Barbara will be based upon existing programs in ways that are conscious of growing and important needs of society, of developments in academic disciplines, and of student needs. Only programs which arise out of existing campus disciplines or are developed jointly with another campus are contemplated within the next several years, with the possible exception of a Law School. Those programs, if added, would be justified in terms of overall need in the University." Although constraining in form, this statement of policy is not unduly restrictive of UCSB's future development. Within the existing colleges at UCSB there are no major imbalances, such as

the absence of basic disciplines. The constraints in the policy statement reflect, at least in part, a recognition of the campus' achieved programmatic breadth at the graduate level. There is no immediate need to add new Ph.D. degrees which are not already based on existing strong programs. Further, new emphases or concentrations can easily be introduced within the context of existing graduate degree programs, as student and societal needs change or as developments in existing disciplines warrant them.

In the face of these considerations the following planning guidelines seem appropriate:

(1) The major campus imbalance is in the areas of professional education. It is in this area mainly that the campus' development was interrupted. The University Plan recognizes this imbalance and allows for the possibility of a Law School at Santa Barbara. Both by reason of societal needs and campus impact, the establishment of a Law School in Santa Barbara is given high priority. Other professional programs will be considered.

(2) Since the breadth of the campus' programs is a primary source of its strength, it will be a basic campus policy to add to the depth and quality of these existing programs.

Planning priorities are often expressed in terms of rankings of new programs. But a high priority can also be given to further improvement in quality, to increased depth and completeness, and to the continuous updating of the programs we already have. The main vehicle for achieving these goals will be the new faculty appointments, resulting both from the net addition of positions and from the expected internal vacancies. The anticipated appointments over the next 5 to 6 years are large enough in number to be spread widely among the existing disciplines. The objective of this policy then will be to strengthen the campus' programmatic pluralism and to complete the essentials of a distinguished University.

(3) In addition to adding strength on a wide front--i.e., in addition to strengthening the broad base--more concentrated efforts will be made in carefully selected areas, very likely cutting across disciplinary lines.

A good illustration of what is invclved in this process is the effort currently underway to provide additional depth, but on a relatively more massive scale, to the already existing program in marine science: given the existing breadth and diversity of complementary programs, a relatively limited amount of new resources applied to this program area will have large-scale effects by drawing upon existing resources from several departments.

The important point which needs to be stressed is that the campus' broad base provides flexibility by allowing concentrated, economical efforts in any one of a large number of directions, without the need for establishing new departments or, in most cases at least, new Ph.D. programs.

(4) Breadth, diversity and balance do not preclude the de-emphasis or elimination of programs. Recent internal FTE reallocations were responses to shifting program needs. In the past such programs as Industrial Arts and Home Economics were eliminated (the process of phasing out the latter ended in 1973). These principles are still operational but at present there are no programs whose elimination is contemplated.

(5) Programs have both research and instructional dimensions. The continued promotion of research and the improvement of instructional methods are the basic institutional goals.

With regard to research, in addition to individual and independent faculty research which goes on all the time, we anticipate that we will be encouraging the further development of certain research themes. These themes include marine and coastal-zone studies, health (outside the traditional medical curriculum), energy, and societal research (such as urban problems, public policy issues, education and so on).

The determination of these areas is influenced by such factors as social concerns, existing facilities, common interests of faculty in several disciplines, external funding opportunities, and the value of this type of research for the development of instructional programs. Research will be encouraged which has immediate instructional usefulness, both at the graduate and undergraduate levels.

(6) The issue of instructional development is a complex one and discussions in this area have suffered from some lack of structure regarding the processes involved, the means to be used and the ends to be achieved.

Underlying most, if not all, strategies for instructional development is the increased awareness of, and greater sensitivity to, the diversity of students in terms of differences in their abilities, interests, concerns and priorities. The accommodation of these differences--the individualization of student learning--has become a primary rationale for reforms in academic procedures and programs, in this and other institutions.

Individual student differences and the responses to them include the following: (a) there are differences in student learning rates calling for greater efforts in the direction of self-paced instruction; (b) there are differences in learning styles calling for increased diversification in classroom settings (e.g., freshman seminars) and greater use of technological media; and (c) there are differences in subject matter interest suggesting that UCSB's increasing diversity of programs is a major process of instructional development.

Implications and Concerns

1. Faculty Renewal

The Santa Barbara campus is anticipating a growth in enrollments during the balance of the 1970s, a decline in the rate of growth in the early 1980s and possibly a steady state in the years beyond. In this hypothesized environment a faculty renewal model monitors the influx of new faculty who will implement UCSB's programmatic goals, develops a buffer against possible shorter term enrollment fluctuations, and prepares the institution for a possible steady state sometime in the 1980s. The opportunity exists for the campus to add the number and quality of new faculty to transform it from a center of great strength to a center of recognized

excellence. Administering the infusion of new outstanding faculty talent over the next several years is a central institutional challenge.

2. Enrollment Distribution

The student enrollment distribution has varied among disciplines in recent years, influenced by student perceptions of societal needs and vocational opportunities. Multi-disciplinary programs, biological sciences, some of the physical sciences and engineering are projected to increase more than proportionately to the campus growth. Social sciences and humanities, which have declined relative to the campus total in the past few years, will experience slight percentage declines in the future while increasing in absolute numbers of students. The shift in enrollments by discipline is away from the relatively low cost disciplines toward the higher cost disciplines and characteristic of trends in both undergraduate and graduate sectors.

3. Support Base: Capital Improvements

Whereas on a total-square-footage basis the campus appears to be well-endowed with educational space, the fact is that more than 10 per cent "capacity" space used for teaching and research is in inadequate temporary buildings exemplified by the World War II Marine Corps barracks. These buildings have been modified to an extent, but do not lend themselves to the specialized needs of our departments. Programs of biological sciences, engineering and the unique College of Creative Studies are housed in these military holdovers. Capital facilities of the campus in most non-science departments are excellent.

4. Support Base: Annual Operating Budget

The per faculty support level for the UCSB campus has been low historically. The increased level of

support in recent years still has lagged behind the remainder of the University and the radical transformation of the campus into a research-oriented institution with breadth and diversity in its program. The growth of the graduate programs and the continued shift in enrollment towards higher cost disciplines have further aggravated this problem. There is particular concern that the campus goal of adding quality faculty will not be satisfied unless adequate support for new appointments becomes available, especially in the sciences. A "catch up" process in the annual operating budget area is essential.

SANTA CRUZ

CHANCELLOR MARK N. CHRISTENSEN

Overview

Academic planning at UC Santa Cruz in 1974 is shaped by the need to prepare for the impending steady state. The prospect of constraint is a useful parameter for planning as it forces the campus to consider now how to prepare for self-renewal while addressing important questions of quality, breadth, balance, and distinctiveness of programs.

The distinctiveness of campus programs flows from the matrix structure of colleges (relatively small, residential, multi-disciplinary communities of students and faculty) and campus-wide, disciplinary boards of studies. Primary emphasis of the campus will continue to be excellent and distinctive undergraduate instruction characterized by a humanistic approach to education and unusual opportunities for inter-disciplinary study and research. The campus will develop a selected range of highest quality graduate programs, not a comprehensive graduate school.

Applied programs are critically needed in order to increase social utility of the institution, to meet student needs, and to provide vital links between academic programs and the everyday world. In the absence of evident State interest in development of more conventional professional schools, emphasis will be placed on development of programs that bring advanced knowledge and research to bear on practical problems, with special reference to study, design, and operation of complex systems.

To be vital and strong in the steady state, Santa Cruz critically needs to grow in some modest measure beyond its present size. That increment of growth is needed to: 1) develop strength and balance in programs and differentation within the University system, and 2) to lay the base for a resource strategy that provides for renewal of faculty and budgetary flexibility in the steady state. Towards these ends, the campus needs especially some further facilities.

A major uncertainty in planning stems from unresolved differences between University policy and an emerging State policy of no further expansion of capacity for higher education.

History of Planning at UCSC

The Santa Cruz campus, which enrolled its first students in

1965, was conceived by The Regents as an opportunity for educational innovation and leadership within the context of the central mission of the University of California. The campus was planned by founding Chancellor Dean E. McHenry especially to foster a sense of community among students and faculty, to encourage cooperation among disciplines, and to reduce particularism among the faculty. To those ends the campus was organized as a series of residential colleges; the colleges were developed as physically distinct entities arrayed about a central space, in which are located facilities that serve the entire campus.

The 1965 Academic Plan and the Long Range (Physical) Development Plan anticipated continuous growth to a maximum enrollment of 27,500 students in the 1990's. By 1970 an ultimate size of 10,000 to 15,000 began to be considered. While the campus retains the capacity to grow larger should the needs of the University or State so require, in 1974 it appears unlikely that enrollment will exceed 7,500 through the end of the 1980's.

No planning could be expected to prepare adequately for the drastically smaller scale that is now in prospect. Physical facilities, especially, were distributed in preparation for much larger numbers. A number of programs lack critical mass and applied programs have only begun to be developed. It is essential to the health of the institution that it have the resources needed for the incremental growth toward an enrollment of 7,500 to provide the critical margin of growth towards maturity.

Santa Cruz in 1974

In Fall of 1974, Santa Cruz enrolled 5,251 undergraduates plus 326 graduate students. There are 313.75 budgeted faculty positions.

The colleges are the distinctive feature of the Santa Cruz campus. The faculty of each college are involved with and responsible for academic, co-curricular, and extra-curricular activities of students. In general, the colleges consist of 600 to 800 students and 30 to 45 faculty. Each college occupies a separate cluster of buildings, including residential and academic space. About 50% of students reside in the colleges, the remainder in the local community.

The colleges are important in fostering a holistic approach not only to education of students but also to communication

among and development of faculty. Each college has faculty members from each of the three general fields of modern scholarship--humanities, social sciences, and natural sciences. There is no departmental structure within the colleges, but, rather, each faculty member of a college is affiliated with a campuswide disciplinary "Board of Studies." The boards foster academic programs and professional development within the disciplines. In the colleges association with colleagues from other disciplines, together with responsibilities for extra-curricular aspects of college life, provides opportunities for broadening of intellectual and personal perspectives.

The campus offers a broad range of orthodox disciplinary major programs at the undergraduate level, along with unusual opportunities for field studies, independent studies, and apprentice teaching. Students are enrolled in about equal numbers in the humanities, social sciences, and the natural sciences. While Santa Cruz has the image of emphasizing social sciences and humanities, in fact, at the present time the proportion of undergraduate student enrollments in the sciences at Santa Cruz equals that at Berkeley.

Interdisciplinary programs, in general, are based on courses within various disciplines, linked together by integrating courses that provide a broader perspective or permit a cross-cutting issue to be addressed with competence.

Santa Cruz currently offers 11 Ph.D. programs, primarily in the natural sciences. The campus currently has two organized research units: Lick Observatory and the Center for South Pacific Studies.

The campus has only recently begun to develop applied programs. The broad base of disciplines, combined with cross-disciplinary associations in colleges, provides special opportunities for developing distinctive applied programs. Programs are underway in regional planning, applied social sciences, and education. Others are being considered in applied sciences, including health sciences.

Directions for the Next Decade

General Considerations: Development of academic programs will be guided by a general sense that we are in the midst of a long range historical shift of emphasis from discovery, development, and exploitation of isolated items to study,

design, and operation of complex systems. Such trends are perceptible, not only in academic and intellectual fields, but also in public consideration of a wide variety of technical, social and cultural problems. In the study of complex social and cultural systems, all three divisions of knowledge - natural sciences, social sciences, humanities - come to bear. Few, if any, of the "problems" that face Western civilization are susceptible to strictly technical or political "solutions" but rather, in the end, they turn on value judgments, ethical and aesthetic considerations.

In bringing knowledge to bear on great issues, Santa Cruz has significant advantages through its association of faculty from different disciplines in the colleges. Santa Cruz will make its most significant contribution to the University of California, to the State, and to society generally in the study of the intellectual and practical aspects of complex systems and of the issues that face Western society.

Major uncertainties concerning the appropriate scale for planning make it inappropriate to plan in great detail at this time. Growth to a steady state enrollment at or near 7,500 would permit development of plans outlined in the following sections. If no further academic facilities are to be constructed, as a result of State policy, then a dramatically different sort of academic plan must be developed.

General Directions: The primary emphasis of the campus will continue to be excellent undergraduate instruction characterized by a humanistic approach to education and unusual opportunities for interdisciplinary study and research. Santa Cruz will devote special effort and resources to improvement of instruction and learning at the university level. That effort includes a critical concern with the pedagogical barriers to education and learning as well as a commitment to reach out to groups and individuals traditionally unserved by the University. Santa Cruz will be concerned not only with research and instruction in disciplined, specialized knowledge, but also with the application of knowledge to the human condition, in the humanities and social sciences, as well as the natural sciences.

If facilities can be built to provide for a marginal increment of growth, then graduate programs will grow to the point where graduate students constitute about 10% of the enrollment. The campus will seek to develop a selected range of highest quality graduate programs rather than to develop a comprehensive set of graduate programs. As graduate

enrollments increase, the campus intends to work toward a proportion of 45% of enrollments in natural sciences, 30% in social sciences, and 25% in the humanities. To achieve such balance will require the development of new graduate programs, especially in the social sciences. In developing new programs, the campus will give priority to programs which are interdisciplinary in nature, draw on existing faculty strengths, and have concern for practical application of knowledge. The campus will also attempt to respond to special needs or interests of the central coast region.

The campus is paying special attention to development of applied programs based on advanced knowledge and research in the natural and/or social sciences. In the absence of any evident interest on the part of the State for funding development of further mainline professional schools, such as engineering, law, management, etc., the campus will not propose such programs, though it would wish to develop such schools if opportunities should appear in the future. It will emphasize programs that follow the model of agriculture, bringing advanced knowledge and research to bear on practical problems.

Campus Distinctiveness: The distinctive feature of the Santa Cruz campus is the matrix structure of colleges and boards of studies. In addition to that pervasive distinctiveness, the campus is developing several major themes:

1. Two themes cut across all divisions of scholarship and will be central emphases for the campus; the campus will continue to develop:

   a. Information Sciences, which plays a significant role in analysis and operation of complex systems and has important links into concepts and research in all general domains of knowledge. Methods and technologies derived from Information Sciences will have increasing theoretical and practical importance.

   b. Study of the Coastal Zone through programs in Marine Studies, Environmental Studies, and Regional Planning. These programs pursue the thrust into analysis and understanding of complex systems, exploit natural advantages of location, and address issues of importance to California. These programs are concerned with both basic research and application of knowledge to practical problems.

2. Three further themes related to study of complex systems are also being developed:

   a. Applied Social Sciences, especially as they come to bear on study, design, and operation of institutions. The programs will be concerned with the education of both scholars who study and administrators who operate institutions in a time of social change.

   b. International Studies and studies in areas, communities, or times (e.g., American studies, Asian studies, Medieval studies), based on both social sciences and humanities. The campus will place special emphasis on Pacific and Asian studies and the interactions between Eastern and Western cultures.

   c. A program in performance, media, and communication and other interdisciplinary programs in arts, letters, and social sciences. There is strong student interest in the arts, and the arts provide important balance relative to the more abstract concerns of other programs.

Inter-institutional Cooperation: The campus is exploring opportunities to develop cooperative programs with other educational institutions in the central coast area. With Berkeley and Stanford; it will seek to expand existing programs for sharing resources (e.g., joint programs, cross-registration in courses, exchanges of faculty, library, computing, etc.). The campus is already engaged in discussions with Stanford concerning joint programs in marine sciences.

Special Issues: Given a modest margin of growth, the campus can plan effectively for vigor in the steady state. For purposes of budgetary flexibility it can develop a pool of budgeted FTE that are used for temporary staffing needs only, to accommodate workload shifts, at the present time almost all academic FTE are committed to ladder faculty. A limited number of new faculty appointments at senior levels would provide models of excellence for a very young faculty and also some retirements in the 1980's, providing some opportunities for appointment of new faculty while the faculty as a whole matures. The Long Range Development Plan, developed for a campus of 27,500, can be reviewed and revised

so that the few buildings remaining to be constructed can most effectively meet the needs of a much smaller campus through an indefinite period.

Conclusion

The ability of the campus to achieve its potential is critically dependent on the resources, including facilities, that are necessary to sustain a small margin of further growth. If such resources become available, the campus can develop the foregoing concepts in rich, fruitful and distinctive ways. If those resources are not forthcoming, then the campus must plan for major restructuring of its programs and deletions of some existing programs. Applied programs probably could not be developed. Resolution of the major parameters for planning is essential to effective planning.